The Business Quarterly

SPRING 1961 | VOLUME XXVI NUMBER 1

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UNIVERSITY OF WESTERN ONTARIO

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WILL TOLLS KILL THE SEAWAY? · Stuart Armour 13

The use of user tolls on the Welland Canal threatens users of the whole Great Lakes Waterways System, according to this leading Canadian economist.

TESTING THE MARKET · Joseph N. Fry 18

Some thoughts on the uses, justification, methods, and limitations of market testing.

THE CASE FOR TARIFF REFORM · Harry G. Johnson 25

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How effective is your office? A management consultant describes a tool by which office work can be measured and controlled.

THE CLIMATE FOR BUSINESS · T. W. Kent 40

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ORGANIZATIONAL DECISION MAKING:
NEW SCIENCE AND AGE-OLD ART · Craig C. Lundberg 47

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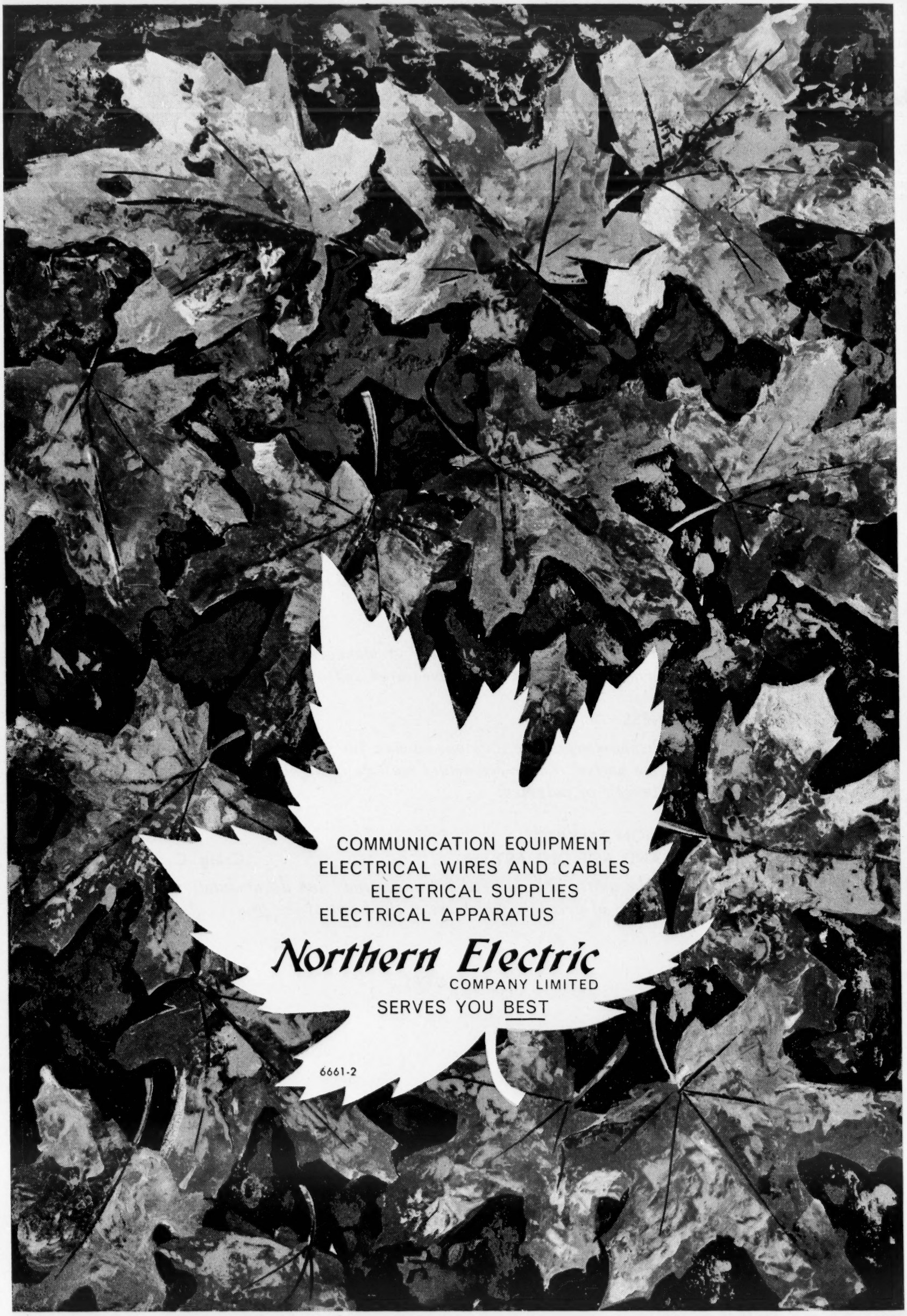
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What Price Nationalism?

Not since The Great Depression has this country seen such public controversy and debate regarding national economic policy. Faced on one hand with substantial unemployment at home, on another with foreign control of a significant portion of our industry, and on yet another with the emergence of new world trading blocs abroad, Canadian businessmen have been besieged with criticism, advice, and exhortation.

One of the exhorters, Mr. James Coyne, himself beleaguered on every side by businessmen, politicians, and academicians, is nevertheless completely correct in his assessment of the seriousness of the situation Canada faces today:

> ". . . we are now at one of the more critical crossroads in our history, perhaps the most critical of all, when economic developments and preoccupation with economic doctrines of an earlier day are pushing us down the road that leads to loss of any effective power to be masters in our own household and ultimate absorption in and by another."

Mr. Coyne appears to be saying that the price of remaining as masters in our own house is not really very steep, and that all we need to do is to "live within our means." This can be accomplished, not by reducing our standard of living, but by pursuing a course of economic nationalism—presumably by raising tariffs, imposing exchange controls, and by other such regulation.

At this point, two quite separate questions emerge: Can a country, by applying such measures, really hope to survive in the world of the future? And even if it could, would the price of survival be worth it?

The first question hinges on an analysis of the basic forces at work in the world today, and what Canada's role should be. Economically, Canada *must* trade, and we must import capital if we wish to retain our standard of living. Economic self-sufficiency can be purchased only at an extremely high price.

The second question is really not an economic question at all, but a national value-judgement: Is the price of self-sufficiency worth it?

The Coyne camp, and in it must be included those who argue for less American influence, "Buy Canadian," higher tariffs and more protection in general, say "yes." The other side, and this includes some academicians and a few business leaders, say "no." Mr. Neil McElroy, chairman of Procter and Gamble, argues that Canada cannot help but suffer serious economic consequences if she embarks on a course of economic nationalism; he argues in favour of a form of economic union or Common Market between the U.S. and Canada. He believes that economic union does not necessarily mean political union and that we could work as an economic unit with the U.S., while at the same time retaining Canadian political and cultural identity. There are even some who would go so far as to argue that the price of this political and cultural identity is too high, and at best would be a mirage.

Mr. McElroy's logic is hard to refute, particularly when one views in perspective the forces at work in the world today. Can we, in a time of rapidly-shrinking distances and times of growing world economic development, continue to survive as an independent economic unit? Common sense says no, that instead of insulating ourselves against reality by nationalism, we should be hard at work right now on development of an economic trading unit with the United States and other members of the Commonwealth. To do otherwise is to hide one's head in the sand. And we are wasting time.

—D. S. R. Leighton

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About Our Authors

Stuart Armour has served as economic advisor to The Steel Company of Canada, Ltd. since 1947 and is a director of the Great Lakes Waterways Development Association. Before joining STELCO, Mr. Armour was associated for several years in an economic research project with the late Gilbert E. Jackson, O.B.E., a former economic advisor to the Bank of England. During World War II he was responsible for writing and initiating the operation of the gasoline rationing plan for Canada. In addition, he organized the elementary and air observer flying training schools under the British Commonwealth Air Training Plan. He is a frequent contributor to *The Business Quarterly.*

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Continued on next page

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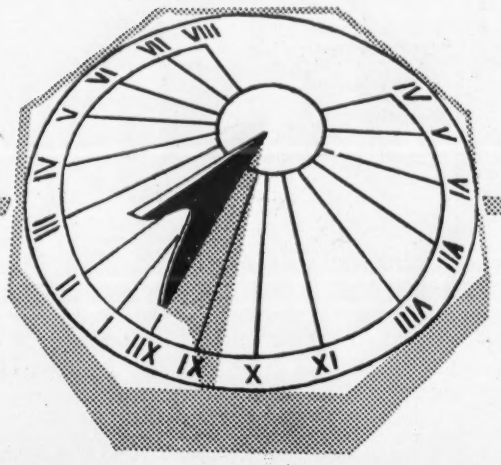

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About Our Authors cont.

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Tom W. Kent, M.A., is a Vice-President of Chemcell Limited. He is a graduate of Oxford University where he studied political science and economics and specialized in financial theory. A former newspaper editor, Mr. Kent was Assistant Editor of the *London Economist* from 1950 to 1954 and Editor of the *Winnipeg Free Press* from 1954 to 1959. He has written widely on economics and public affairs.

Craig Lundberg, B.A., M.B.A., Assistant Professor at the School of Business Administration, University of Western Ontario, received his degrees from the University of Washington. From 1957-60 he was engaged in teaching, research, and graduate study at Cornell University and is currently a Ph.D. candidate there. At Western, Mr. Lundberg teaches courses in Administrative Practices and Human Relations and is currently working on a report on decision making which is based on a 10-month period in industry, observing and collecting a series of related cases.

1961

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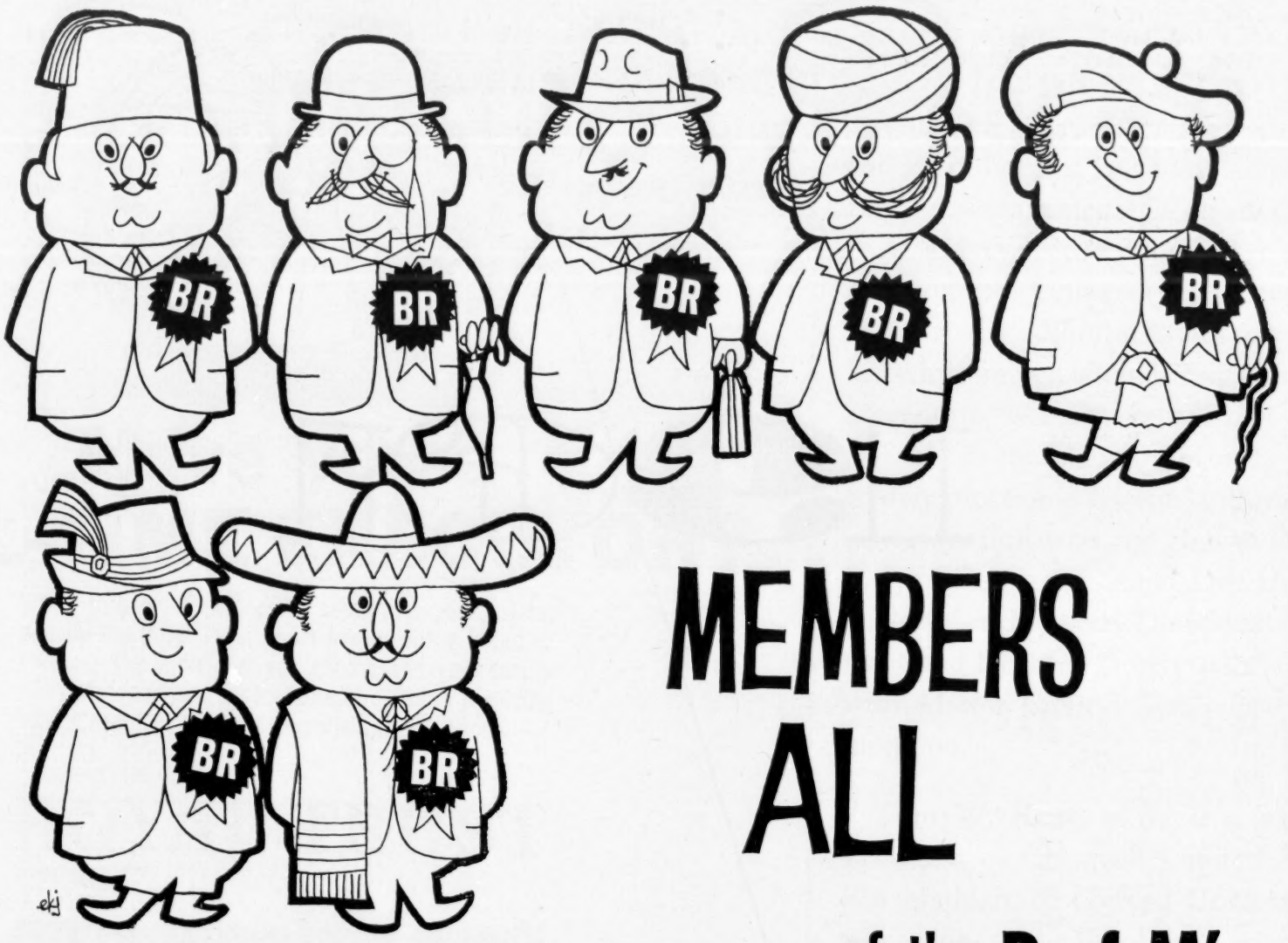

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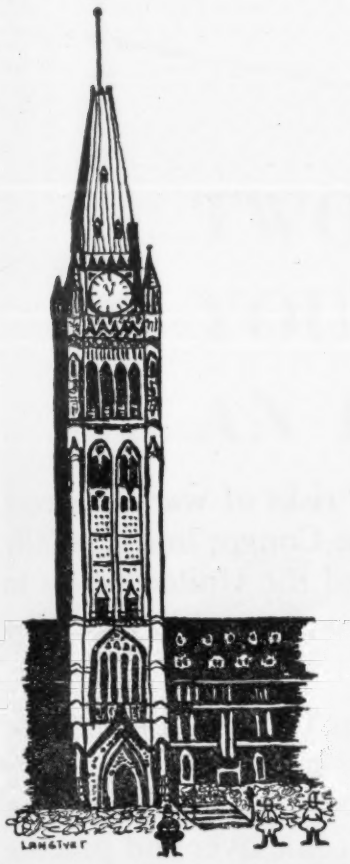

Ottawa Newsletter

PATRICK NICHOLSON

We have been warned.

But year after lush year, we allowed the pleasant boom of our post-war prosperity to drown the unwelcome warnings of economists and nationalists. We went right on selling off a strip of the old homestead each year to pay for our fling of high living. Canadians are, for the first time in two decades, seriously short of jobs, short of capital, and—in contrast to the big neighbour—short of material trimmings.

Suffering from a painful hangover, we are seeking a scapegoat other than the obvious and true cause of high living. This search has led us to accuse and to resent the economic imperialism of that neighbour, which we at one time encouraged, but which we now see as purblind, clumsy, and often wanton.

Our oilfields, nearly 75% owned by the big international operators ,are only being permitted to produce at half their present capacity, which is 60% of our current use. But while they thus conserve Canadian oilfields as a reservoir for the future, they are seriously aggravating our unfavourable balance of trade.

The news-stand in a big hotel in our national capital offers for sale 132 American magazines but only 13 Canadian. One of the big sellers and big profit-earners is the so-called "Canadian edition" of an American magazine; it contains 93% of the editorial matter already published and paid for in its main U.S. edition, but of course its advertising is 100% from Canadian businesses. It is printed as well as edited in U.S.A.; it is posted in U.S.A., and our Post Office therefore carries some 10,000,000 copies a year without payment for that service. Yet this "dumping" is permitted, under the mask of a "Canadian edition," smothering that tender bud of a genuine Canadian periodical press.

Canadian workers are being laid off, while export orders are being diverted from Canadian plants to their under-employed parent companies in U.S.A.

Our automobile industry, 97% owned in U.S.A., imposes upon the Canadian monopoly market a type of car designed for use by wealthier people in a milder climate—and sells it at a higher price. No wonder workers are being laid off by plants in Oshawa and Windsor while the buyers stage a strike by buying the less gaudy and more mechanically perfect cars sold at lower cost by European producers.

It is no surprise that the most vociferous socialist M.P. in our Federal Parliament, himself a waggish import from England, told me: "Those U.S. interests often fail to realise that their subsidiaries are on Canadian soil."

"No one can deny that they are to the material advantage of Canada," admitted that frank Bert Herridge, M.P. "But they are certainly not to our spiritual advantage."

The flood of foreign capital invested in Canada has now reached the truly staggering figure of $22,000,000,000, chiefly from U.S.A. This is three times the maximum borrowed by U.S.A. in their development period of greatest dependence upon foreign capital. But unlike the British venture capital, which helped to open up the West and build U.S. railroads through bond investment, the American capital now dominating our industrial scene is in the form of equity investment, neither repayable at a fixed price on a fixed date, nor divorced from policy-making. Mr. J. E. Coyne, Governor of the Bank of Canada, recently deplored this colonization-by-investment as being "unprecedented in any country which has got beyond the colonial or seriously underdeveloped stage."

So it is not surprising that the ugly and dangerous expression "anti-Americanism" is gaining in use here. But thinking men recognize that this phrase is really a product of verbal laziness, rather than a conscious adoption of the cry which has been chalked on walls around the world: "Yankee, go home!" The mood sweeping Canada today is in fact one of rising Canadian nationalism. Oddly enough, a simultaneous development is the surging of a mood of internationalism. Many young Canadians are looking towards world, or at least regional, government and co-operation; they regard narrow national sovereignty as outmoded, while yet screaming for the trappings of a distinctive national personality.

"I don't want to be tied to an American dollar or Jimmy Hoffa or even 'adult westerns'," said Liberal

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Washington Newsletter

J. M. Minifie

The change of tempo adopted by the Kennedy Administration is so pronounced that it disguises the similarity of many of its themes to those of the Eisenhower regime. It is rather like Ravel's "Bolero"—same theme but varied tempi.

Around the White House there is an atmosphere of scurry and bustle, for President Kennedy is no respector of "channels"; when he wants a thing done, he wants it done right away, and whoever is handiest gets the assignment. Things must move at a much sprightlier tempo than the *largo* movement of Mr. Eisenhower's time.

For example, soon after his inauguration, Mr. Kennedy called together the Joint Chiefs of Staff. He spent most of the evening before going over the position papers for twelve months back. He opened up by remarking that one of the few things the Joint Chiefs appeared to agree on was that there was an urgent need for jet transport air lift. Each service head agreed that this was so. When the President asked why the matter had not been tied up already, there were the usual explanations about priorities, money, and so on. M. Kennedy swept these aside and asked how soon bids could be prepared. Two months! Better cut it down, for he would announce it to his press conference tomorrow. The appropriate people at the Pentagon worked all night and came up with some figures in time for the press conference.

Now, the inadequacy of military airlift had been revealed as far back as the Lebanon expedition in 1958; nearly three years later nothing had been done about it.

Long ago Dean Acheson criticized Foster Dulles for substituting locomotion for policy. All that was going to be changed. Dean Rusk, the new Secretary of State, was going to stay home and tend the cooking. Then it became important to attend the NATO Council meeting in Oslo in May. And should NATO be favored over SEATO? Mr. Rusk heads for Bangkok in March. Shall CENTO be neglected? No date yet set, but hard to reject.

Brinkmanship by Mr. Dulles irked friend and foe. But before he had been in office a month, Mr. Kennedy was pointing to the "risks of war" inherent in unilateral intervention in the Congo; in a carefully drafted statement he committed the United States to oppose "any attempt by any government to intervene unilaterally in the Congo."

Mr. Eisenhower spent much of his time on the golf course. Mr. Kennedy plays better golf—but only on holidays. One dreary February afternoon he called up a friend and invited him to come over and practise a few chip shots on the green Mr. Eisenhower built behind the White House. It was like old times with the President and Paul Fay, now Undersecretary of the Navy, smacking the balls through the mist and drizzle and his factotum John J. ("Mugsy") O'Leary fielding them.

Missile gap? What missile gap?

China? When there is something to talk about, no doubt conversations will resume between the U.S. and Chinese Ambassadors in Warsaw.

Domestic policy, however, does show a change. Higher minimum wage, medical care for the aged, federal aid to education, federal development and conservation of natural resources were all anathema to the Eisenhower Administration, but have been strongly recommended to Congress in some of the greatest state papers ever to come out of the White House. The whole theory of the role of government is different, and this difference is best illustrated by the fatalism with which the Eisenhower government watched the steel strike drag down the country's economy and the energy with which the Kennedy Administration stepped in to avert the New York tugboat strike and stop the airline strike.

Comparable contrasts marked the attitudes of the two regimes to the recession. The Kennedy Administration applies tentative remedies, promises stronger if they fail; the Eisenhower Administration denied a recession existed. Its attitude was summed up in a sardonic cartoon by Herblock; it represented Kennedy setting up a sign "Recession Valley," while the Republican leadership tells John Citizen: "See the trouble he's got you in? We used to call this hole 'Ike's Peak'."

TWO YOUNG MEN... AN IDEA... and idb

When John X and Harry Y first approached Industrial Development Bank on behalf of their small processing company they had a clear idea of the lines along which they wanted their company to develop but, partly because the business and the operating equipment were quite highly specialized, they were experiencing difficulty in obtaining term financing for an urgently needed plant expansion.

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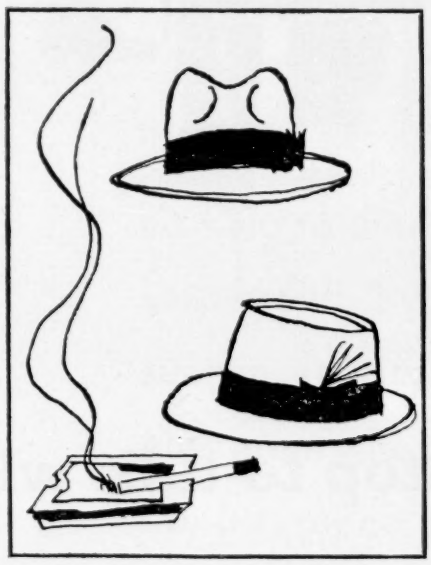

The space problem was relieved for a time by this first expansion and the company continued to grow despite occasional setbacks of the kind experienced by most businesses.

Three or four years later, the plant was again bursting at the seams but further enlargement of the building was not possible and the principals began to think seriously of moving to a large metropolitan centre. They changed their minds, however, when a group of local citizens, impressed by the company's record of progress and being anxious to keep the industry in the community, offered to invest as minority shareholders in the operation. IDB was approached once more and again extended financial assistance for a new and larger building to be located in the same town, and for additional equipment. The further expansion successfully completed, the company is now the largest employer in town and is still growing lustily.

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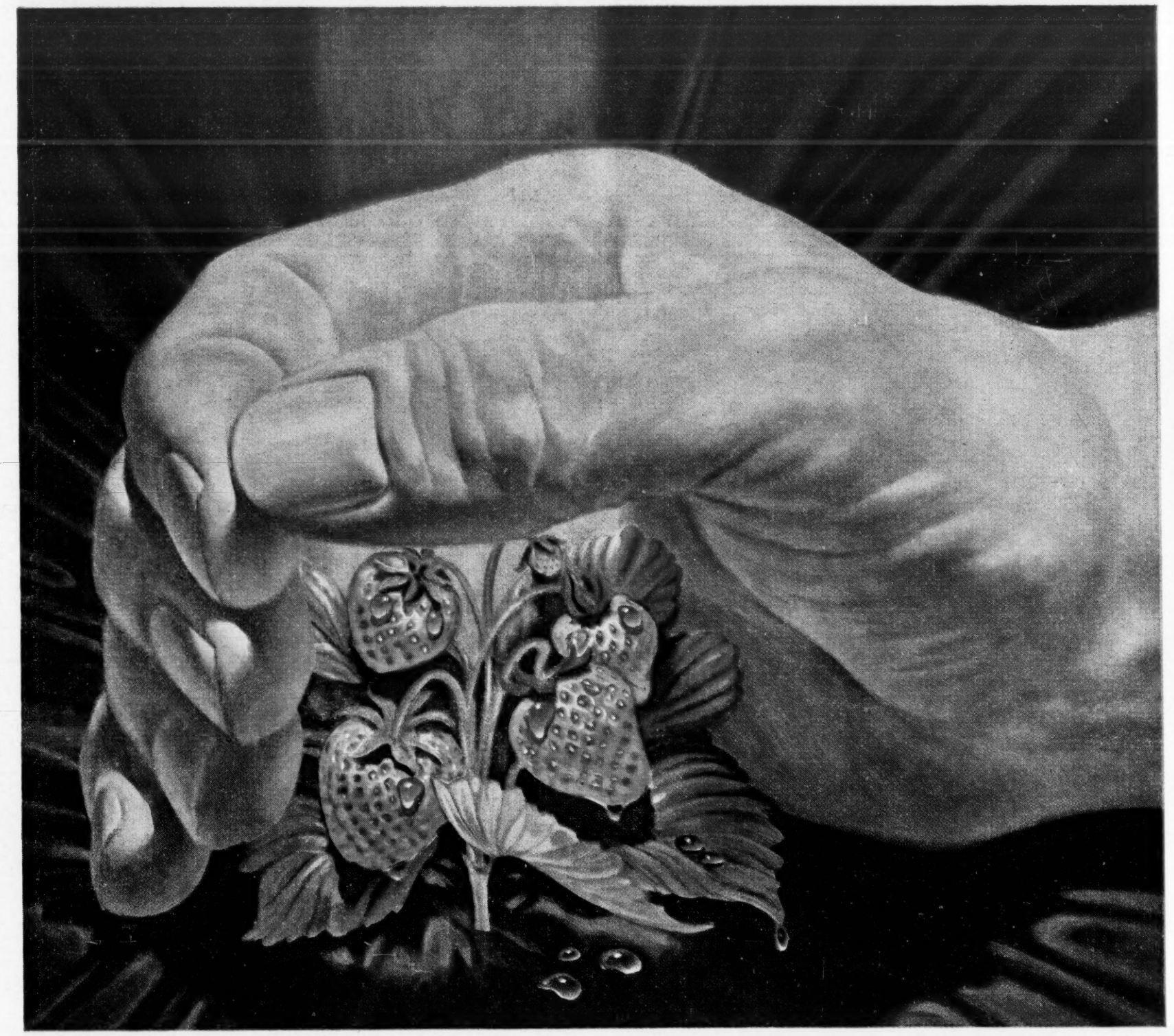

Giving strawberries a place in the sun

Strawberries grow rich and ripe in the sunshine, but they do need special care. Berries that touch the earth can develop ground rot, and the sun itself bakes moisture from the soil. Today, many growers solve these problems with something you can try in your own garden—black polyethylene film from Union Carbide. Easily rolled out in long strips, this mulch protects the berries from ground rot, helps keep the earth warm and moist, and smothers troublesome weeds in darkness. Tomatoes, melons, peppers and many other fruit and vegetable plants—set in the ground through the film—grow with spectacular results . . . yielding a richer and earlier harvest.

Acres of plastic film are being used on the farm in many other ways. For example, polyethylene film is used as a lining in ponds and irrigation ditches to prevent seepage. Silos of polyethylene film can be set up right in the field as a convenient way to preserve animal feed. And, anyone can use transparent polyethylene, stretched over a wood frame, to make a low-cost, do-it-yourself greenhouse.

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Will Tolls Kill the Seaway?

As long as tolls remain on the Welland Canal, Mr. Armour argues, the more likely it is that tolls will be put upon the Soo Locks and connecting channels. In addition, there is an increased likelihood of a toll-free U.S. canal that would by-pass Niagara Falls.

STUART ARMOUR

One of the world's engineering marvels, which permits ocean-going ships to climb more than 600 feet from sea level up into Lake Superior, has just completed its second year of full-scale operation. It is obviously unsafe to judge the performance of so great a project as the St. Lawrence Seaway and the newly-developed Welland Ship Canal on the basis of two navigation seasons. But it is certainly not too early to draw attention to some unpleasant facts which have emerged from that experience.

When the United States proposed to Canada, in the early days of World War II, that the time had at last arrived for the creation of a deep waterway from Montreal to Lake Ontario, it was agreed by both countries to cover the costs of dredging and of building the necessary new locks and canals by the imposition of user tolls. This was a break with a long tradition in both countries of toll-free navigation on inland waterways. But in the voluminous records of discussions between Canada and the United States that preceded the building of the St. Lawrence Seaway no mention is made of tolls on the Welland Ship Canal.

STATUS OF THE WELLAND SHIP CANAL

The official silence on that subject is understandable in light of the U.S. attitude that the St. Lawrence Seaway as an international undertaking embraces only the waterway from Montreal, Quebec to Iroquois, Ontario. At no time does the U.S. appear to have attempted to dictate policy with respect to the Welland Ship Canal. Indeed, when the question of Welland Ship Canal tolls has been raised at international meetings Americans have always refused to put themselves upon record, on the ground that the Welland is an all-Canadian facility under Canadian control. Even today, after our own government has placed both the Welland Ship Canal and the Canadian lock at the Soo under jurisdiction of the Canadian Seaway Authority, the U.S. government continues to describe the St. Lawrence Seaway as running only from Montreal to Iroquois, Ontario. American shipping interests also continue to regard the Welland Ship Canal as part of the Great Lakes Waterways system rather than as an integral part of the St. Lawrence Seaway.

After the present Welland Ship Canal was completed in 1932, the Parliament of Canada twice rejected the idea of tolls on that all-Canadian facility—in 1934, when the Conservatives were in power, and again in 1936, under a Liberal regime. However, when the act setting up the Canadian St. Lawrence Seaway Authority was passed by Parliament in 1951, it was stated by the then Minister of Transport that the costs of deepening the Welland Ship Canal to seaway standards would be covered by ship and cargo tolls. The cost of deepening the Welland Ship Canal from 25 feet to 27 feet was estimated in 1951 by the Minister of Transport at from $1.2 million to $1.5 million. Since that relatively modest cost was to be amortized over a 50-year period, even those who felt, and still believe, that the Welland Ship Canal was, and should remain, part of the historically toll-free Great Lakes Waterways system could not take the threat of tolls too seriously.

Seldom has there been a more egregious error. For by 1960 more than $37 million had been spent (or earmarked for expenditure this winter) on deepening the Welland Ship Canal, from 25 to 27 feet, and on the construction of new facilities made necessary by the resulting influx of ocean-going vessels. Thus there has been imposed upon long-time Canadian (and American) users of the Welland Ship Canal a heavy added burden of expense for a facility which they did not need and which they never requested. Moreover, as figures to be produced later in

this article will clearly demonstrate, that unnecessary and unwanted burden promises to grow with the passage of time; thus constituting an ever-harsher form of discriminatory treatment out of keeping with our tradition.

But quite aside from the heavy added burden upon long-time Welland Ship Canal users, tolls on that all-Canadian facility constitute a danger to the users of the whole Great Lakes Waterways system. That threat arises out of the fact that tolls on the Welland Ship Canal invite the imposition of similar user tolls on all those Great Lakes waterways that have hitherto been toll-free. Those waterways embrace the Soo locks and the connecting channels in the St. Marys, St. Clair and Detroit Rivers, which afford access to and from Lakes Superior, Huron, Michigan, and Erie.

TOLLS ON THE SEAWAY

Ever since 1796 it has been the established national policy of the United States to provide a system of toll-free inland waterways. Today those waterways, which embrace the Cumberland, Illinois, Mississippi, Missouri, Ohio, Tennessee and other smaller rivers, carry many more millions of tons of cargo than do the Great Lakes Waterways system plus the St. Lawrence Seaway. Retention of the toll-free status of U.S. inland waterways is the stated objective of all the states bordering the rivers ennumerated above. In fact, any effort to impose user charges upon those historically toll-free waterways would be restored not only in the halls of Congress, but also through legal action up to the U.S. Supreme Court. But when the U.S. embarks upon joint development with a foreign country of international water, the imposition of tolls upon such jointly developed waterways becomes possible through executive action. It is because the St. Lawrence Seaway is an international waterway that the U.S. government was able to place tolls on the Eisenhower and Snell locks, although both lie within U.S. territory.

With the U.S. permitting the collection of tolls upon two locks lying wholly within its own territory it was, of course, obligatory for Canada to agree to the U.S. proposal that user tolls be collected on the St. Lambert, Cote St. Catherine, Beauharnois, and Iroquois locks, which form our contribution to the St. Lawrence Seaway proper. Indeed, without Canadian agreement to collect user tolls upon our contribution to the Seaway, that great project for the by-passing of the rapids above and below Cornwall by large ocean-going vessels might never have been started.

The St. Lawrence Seaway is an entirely new international facility permitting an entirely new type of vessel to voyage from Montreal to Lake Ontario. It is, therefore, quite proper that those who agitated for this new facility, and who are the principal beneficiaries of its construction, should bear the cost of it. But in the case of the deepened Welland Ship Canal, no such reason can be adduced for imposing tolls on long-time users of an all-Canadian facility which was perfectly adequate and satisfactory to them.

TOLLS ON THE WELLAND SHIP CANAL

Why then were tolls imposed upon the Welland Ship Canal? That is so hard a question to answer that no Canadian politician has ever yet publicly attempted to do so. Nevertheless, the impression has certainly been subtly created that Canada acted in the matter of Welland Ship Canal tolls under U.S. pressure. But nothing to support that suggestion has ever come under my observation, despite considerable research into the subject.

It may well be, of course, that, because the Welland Ship Canal and the Canadian National Railways both come under the ultimate jurisdiction of the Minister of Transport, it was decided in Ottawa not to allow the former to compete too successfully with the latter. This attitude would be in consonance with the attitude toward all water-borne transportation of railway and other powerful interests in the U.S. It would also be an attitude agreeable to those Canadian interests that tried at the 1960 annual meeting of the Ontario Chamber of Commerce to have that important body rescind a resolution supporting the opposition of the government of Ontario to Welland Ship Canal tolls.

But, whoever was responsible for the imposition of tolls on the Welland Ship Canal, it is no secret that the opposition of powerful Atlantic Coast port authorities and rail and other transportation interests was responsible for delaying construction of the St. Lawrence Seaway for many years. Only the immense influence of President Roosevelt, plus the belief that defence requirements necessitated such action, permitted the framing of the original Canadian-United States Seaway agreement. But not even President Roosevelt could bring about initiation of the project in the face of the opposition of the interests arrayed against the proposed waterway. It was only when Canada announced its intention of building the Seaway unilaterally that Congress finally agreed to allow the U.S. to participate.

Ever since the Seaway came into full-scale operation in 1959, those Canadian and U.S. interests which had blocked its construction for so many years have

continued to do all in their very considerable power to bring about its failure as a competing system of transportation. As part of that effort to reduce or nullify the competitive potentiality of water-borne transportation, U.S. railway and allied interests are even now pressing for imposition of user charges on all domestic inland waterways through collection of a federal tax on the fuel used by towboats. While this back-door effort to toll U.S. inland waterways is being so strenuously opposed as to make its success unlikely, it is indicative of the efforts still being pursued to lessen or destroy water-borne competion. Hand in hand with the effort to impose a tax upon fuel used by inland waterway towboats, there is active agitation for the imposition of user tolls on the hitherto toll-free Soo locks and on the connecting channels in the three rivers that afford access to four of the Great Lakes.

The U.S. government through the U.S. St. Lawrence Seaway Development Corporation spent approximately $128 million in creating its portion of the St. Lawrence Seaway from Montreal to Iroquois. The U.S. government through the Corps of Army Engineers is currently engaged in dredging and other operations—on both sides of the International boundary—to deepen and improve navigation facilities in Lake St. Clair and the St. Marys, St. Clair and Detroit Rivers. This effort to bring those International upper lakes' facilities to Seaway standards will cost the U.S. government in excess of $140 million.

There is a certain logic to the argument that if the U.S. St. Lawrence Seaway Corporation is legally bound by Public Law 358 of the U.S. Congress to recover in 50 years through user tolls the $128 million plus interest it spent on the Eisenhower and Snell locks and the connecting Wiley-Dondero Canal, the United States government should also recover the costs of deepening those Great Lakes channels. The argument remains all the stronger, of course, so long as the Americans can point to the fact that the Canadian Seaway Authority collects to cover the costs of deepening the all-Canadian Welland Ship Canal to Seaway standards.

LOW TRAFFIC ESTIMATES

When the joint Canadian-U.S. Seaway toll committee (set up by the respective seaway authorities) came to devise a toll structure, it made certain traffic estimates. Those estimates envisaged a 1959 cargo through-put of 25 million net tons in the case of the St. Lawrence Seaway (Montreal to Lake Ontario) and 40 million net tons in the case of the Welland Ship Canal. The toll committee also estimated that as a result of those 1959 through-puts there would be collected $13,100,000 of toll revenue in respect of the St. Lawrence Seaway and $2,060,000 of such revenue in the case of the Welland Ship Canal. Actual 1959 cargo through-puts were 20.4 million net tons in the case of the St. Lawrence Seaway and 27.2 million net tons in the case of the Welland Ship Canal. Thus there was a 1959 tonnage shortfall below the official estimate of 4.6 million tons in the case of the Seaway, and of 12.8 million tons in the case of the Welland Ship Canal.

As a consequence of those tonnage shortfalls, the 1959 St. Lawrence Seaway revenues of $9,889,696 were $3,210,304 below the estimate of $13.1 million, and Welland Ship Canal toll revenues of $1,224,062 were $835,000 below the official estimate of $2,060,000. It should be noted that in addition to estimated toll revenues of $2,060,000 in 1959, the toll committee estimated Welland Ship Canal revenue from such miscellaneous items as water lot rentals and wharfage at $750,000 annually from 1959 to 2008 inclusive. In 1959 Welland Ship Canal miscellaneous revenue amounted to $630,555, a sum substantially below the official estimate.

Welland Ship Canal operating costs in 1959 were estimated at $1,200,000, leaving a sum of $860,000 from toll revenues to be applied to debt service. Actual administration, operating and maintenance costs on the Welland Ship Canal in 1959 amounted to $2,487,306, or $1,287,306 in excess of the estimate of $1,200,000, and $1,263,244 above the amount actually collected through tolls. Even when the $630,555 collected as miscellaneous Welland Ship Canal revenue in 1959 is added to the $1,224,062 collected in that year through tolls, the total of all revenue fell short of covering administration, operating, and maintenance charges by $632,689. Thus, not only was no money applied to Welland Ship Canal debt service in 1959, but some $633,000 had to be carried forward as a charge against future revenues.

No detailed official figures were available with respect to 1960 cargo through-puts and revenues for either the St. Lawrence Seaway or the Welland Ship Canal when this article was written. But a Canadian Press despatch from Ottawa on December 21, 1960 gave the following preliminary figures from the St. Lawrence Seaway Authority:

	Cargo Tonnage	
	1960	1959
St. Lawrence Seaway	20,279,006	20,540,788
Welland Ship Canal	28,816,422	27,156,291

The toll committee estimated a 1960 St. Lawrence Seaway cargo through-put of 29 million net tons with resultant revenues of $15,196,000. It seems perfectly safe to assume that since through-put de-

clined in 1960 the official revenue estimates will prove to have been over-optimistic in very considerable degree.

The official estimate for Welland Ship Canal cargo through-put in 1960 was 43 million net tons. This represented an increase of 3 million tons over the estimate for 1959, and was 15.8 million net tons over the actual tonnage achieved in that year. As the preliminary figures quoted above indicate, there was a 1960 Welland Ship Canal cargo tonnage shortfall of about 14.2 million tons below the official estimate.

Forecast 1960 Welland Ship Canal toll revenue was $2,215,000, or nearly a million dollars above the 1959 total actually achieved of $1,224,062. On the basis of the tonnage figures given by the Canadian Press on December 21, 1960, it seems certain that the Welland Ship Canal revenue shortfall in 1960 will again have been such as to make it impossible to cover operation, maintenance, and administrative costs. Thus, for the second successive year no money will be available for debt service.

It has been publicly admitted that the cargo and revenue estimates of the joint Canadian-U.S. toll committee were guesses. What has not been publicly admitted, but what may certainly be inferred from voluminous published information, is that the estimates were deliberately made high in order to induce the U.S. Congress to believe that the capital costs of building the Seaway plus interest and maintenance and operating charges could be covered through user tolls within 50 years. One is tempted at this point to quote those immortal words of Sir Walter Scott: "Oh, what a tangled web we weave, when first we practice to deceive."

It was probably necessary to engender the belief that the St. Lawrence Seaway would be self-liquidating according to the official toll estimates in order to induce Congress to authorize U.S. participation in the St. Lawrence Seaway project in the face of all the forces arrayed against it. Unfortunately, those same forces are still arrayed against it, and every year in which the Seaway fails to cover its debt charges increases their power to cause trouble.

THE FUTURE

The whole question of tolls on the Seaway and the Welland Ship Canal must, under the joint Canadian-U.S. agreement, be taken up again by the two Seaway authorities in 1964. If by that year the accumulated deficits are of the order that appears likely from the experience of the past two years, then there will undoubtedly be a tremendous U.S. effort to have tolls raised accordingly. There is nothing in our experience to date to suggest that U.S. effort will be abhorrent to certain interests in Canada, and the drive in 1964 for higher tolls may well be international rather than unilateral. Any increase from the present level of tolls would undoubtedly worsen the competitive position of the Seaway vis-a-vis other transportation facilities, and that, of course, is the objective of its powerful opponents.

While the U.S. Seaway legislature makes mandatory the collection of user tolls to cover amortization of St. Lawrence Seaway costs, the Canadian Seaway Act of 1951 appears from its language to be permissive in this respect. In other words, the Canadian Seaway Authority would not appear to be violating Canadian law if it abolished tolls on the Welland Ship Canal. Nor, on the basis of what has gone before, would it be likely to be accused by the United States of bad faith if it acted unilaterally in this respect, since the Americans have taken the attitude all along that the Welland Ship Canal is a wholly-Canadian facility and hence subject only to Canadian control. As has already been stated, all long-time American users of the Welland Ship Canal have regarded it, and with reason, as being part of the Great Lakes Waterways system rather than as a part of a St. Lawrence Seaway system.

The desirability of the Canadian Seaway Authority taking unilateral action with respect to Welland Ship Canal tolls cannot be too strongly emphasized. So long as tolls remain in force on the Welland Ship Canal, we not only are inviting toll action with respect to the Soo Locks and the connecting channels, but we are also adding impetus to the growing agitation for a U.S. canal to by-pass Niagara Falls.

Since the Americans have long regarded the Welland Ship Canal as an integral part of the Great Lakes Waterways system, (which system has long been toll free), their resentment at the payment of tolls on this Canadian facility, plus the awkward delays attendant upon the Seaway's operations in 1959, have naturally aroused new interest in an all-U.S. canal that could be operated on a toll free basis as part of the U.S. inland Waterway system. The U.S. Corps of Army Engineers has been instructed by Congress to survey the possibility of constructing a canal to Seaway standards from Olcutt, New York, on Lake Ontario to Tonawanda near Buffalo. The proposed canal would run inland from Olcutt to Lockport and then utilize an enlargement of the existing New York State Barge Canal to Tonawanda. A well attended meeting was held in Buffalo in October, 1960 to arouse public interest in this project.

Late in 1960, Governor Nelson Rockefeller of New York State officially declared Buffalo to be an area of high unemployment, and he announced his

intention of consulting President John F. Kennedy as to the possibility of joint New York-U.S. public works projects to relieve the sitution. Construction of a toll-free U.S. canal to by-pass Niagara Falls would seem to qualify as a project likely to aid Western New York's unemployment problem. The New York State legislature has already expressed willingness to hand over the historic New York State barge canal to the Federal government, provided only that it would be improved at least to existing U.S. inland waterways standards. Those standards could be upgraded to Seaway standards with respect to the Lockport-Tonawanda section.

By imposing tolls on the Welland Ship Canal, the government of Canada has not only made Lake Ontario the only one of the Great Lakes that you can neither enter nor leave without payment; but it has also imposed new cost burdens upon Ontario industry. Welland Ship Canal tolls have been protested by the government of the Province of Ontario; the government of Saskatchewan; Western grain growers and grain shippers; the Ontario Chamber of Commerce; the Ontario Division of the Canadian Manufacturers Association; and numerous other public bodies.

On the basis of experience so far, it seems reasonably certain that both the present Seaway and Welland Ship Canal toll structures are completely inadequate to meet the requirement that user tolls cover not only administrative, maintenance, and operating costs, but also capital costs plus interest within a 50-year period. It seems equally certain that the current degree of deficit will not diminish, and that cumulative deficits will give rise to a politically irresistible demand by powerful U.S. and other interests for such a substantial increase in Seaway tolls as to gravely affect the usefulness of a great international project.

CONCLUSION

If Canada restored the Welland Ship Canal to the toll-free status it enjoyed as part of the Great Lakes Waterways system from the time of its opening in 1932 until 1959, then the U.S. would be hard put to it to extend tolls to other parts of that system. But so long as there are tolls on the Welland Ship Canal, they constitute an invitation to the U.S. to take additional toll action inimical to the interests of all those Canadians whose products move through the Great Lakes Waterways system.

It is the threat of future toll action to so many Canadian interests in all parts of our country that has caused the government of Saskatchewan to join with the government of Ontario and other Canadian interests in urging abolition of Welland Ship Canal tolls.

URBAN BOOM IN THE 60'S

Although the automobile is in large measure responsible for the growth of the metropolitan area, it is beginning to strangle it with congestion and convert large portions of its area to highway and parking space. As governments and population become increasingly aware of the fact that it takes over 4,400 automobiles and three times as many traffic lanes to do the work of one lane of 50-seat motor buses or trolley coaches; and that it takes 32,000 autos and over 20 times as many traffic lanes to do the work of one lane of rapid transit trains, mass transit systems are bound to come back as the major means of commuting within metropolitan areas. During the Sixties it may be expected that there will be an increasing prohibition of the flow—as well as the parking—of the automobile in various zones of the metropolitan area. The automobile will become more and more a "feeder" vehicle to mass transit facilities. Although many varieties of public and private investment and control will be devised to accomplish the task, it is likely that the transportation crisis within metropolitan areas will, during the Sixties, stimulate the revitalization of mass transportaion facilities. Mass transit will increasingly be regarded as an essential part of urban intra-structure investment, as essential to urban existence as piped water and sewerage . . .

The explosive population growth that Canada and the United States are experiencing and which has resulted in an ever-increasing concentration of population in urban and metropolitan areas will inevitably call for the expansion of government functions and increased governmental interventionism into economic and social affairs by all levels of government . . . The fact of the matter is that urbanism and metropolitanism as a way of life are synonymous with increased complexity and interdependence. It follows, therefore, that in order to preserve the basic human rights and freedoms of people there will necessarily have to be more regulation in order to preserve these rights. This trend poses one of the major policy problems confronting us in the years ahead. To put it briefly, the problem from here on will be to reconcile such increased governmental interventionism with the retention of individual freedom in a democratic society.

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TESTING THE MARKET

In this first of two papers on Test Marketing, the author outlines the principles and basic uses of this technique. Mr. Fry suggests that if it is to be more a science and less an art, more attention must be given to rigorous design and administration of tests.

J. N. FRY

In the past few years test marketing has come into its own as a technique through which management can reduce the risk associated with marketing changes and increase overall marketing efficiency. This, the first of two papers on the subject, will discuss test marketing in general and present some thoughts on the uses, justification, methods, and limitations of this technique. The second paper, which will appear in a subsequent issue of *The Business Quarterly,* will discuss some of the specific problems that the peculiarities of the Canadian market create for those engaged in test marketing in Canada.

WHAT IS TEST MARKETING?

Perhaps the clearest way to describe test marketing is by analogy to the production engineer and his use of the pilot plant. A pilot plant is, of course, a scaled-down version of a regular production plant, identical in nearly every respect except for its much smaller size. The engineer experiments with the operation of this pilot plant, changing process variables and measuring outcomes in a quest for greater production efficiency. Because the pilot plant is relatively small and unassociated with the main production plant, the engineer can make these changes in the production process at a minimum cost to the company and without taking the risk of upsetting the full-scale production process. Then, any worthwhile innovations he discovers can be incorporated into the full-scale production process at a minimum risk.

In a similar but less perfect way, the marketer can make use of selected areas or cities that are representative of his entire market, as test markets. In these relatively small "pilot plant" markets he can carry out experimental marketing innovations in search of higher sales, profits, and efficiency, without risking the high costs associated with the full-scale market. Then he can introduce his "pilot plant" proven, marketing innovations to the full market with some assurance that they will prove successful.

A significant difference between the described pilot plant work and test marketing, and one that highlights a fundamental difficulty in test marketing, is the difference in the degree of control held in the two processes over the variables that effect the measured results. The engineer has almost all the variables in the pilot and full-scale plant under his control; he can therefore make a precise measurement of the effect of the variables he changes, and, further, he can assume with a high degree of confidence that the results he observes in the pilot plant will be duplicated in the full-scale plant. The marketer, on the other hand, must cope with many variables that he cannot control; he cannot, for instance, control competitive marketing changes, strikes, the weather, or the general economy. Hence the marketer's measure of the results in his test market tend to be rather imprecise, and there is some degree of risk associated with the assumption that the results obtained in the test market will also be achieved in the full scale market. More about this later.

PRINCIPAL USES OF TEST MARKETING

The principal uses of test marketing stem from the marketer's need to evaluate what he thinks are desirable changes in his marketing program. Consider, for example, these two case histories, which have been condensed from the literature:

i) In the late 1950's a leading manufacturer of patent drugs was considering marketing an aspirin called "Analoze," which had a pleasant taste and could be taken in pill form without water. Medically, this product performed its function well. In the judgment of the manufac-

turer it tasted good, was well labelled and packaged, and distribution prospects were excellent. An impressive introductory national advertising and promotion campaign was planned.

Coincident with the technical development of the product, a considerable amount of consumer research was carried out. The reactions of home research panels and clinical panels to "Analoze" were evaluated. All reports were optimistic. From all indications it appeared as if the consumer wanted and accepted the product. Many of the company's executives were in favour of an immediate full-scale introduction of the product.

It was decided to do further research, however, and a test marketing program was set up in three cities. Promotional and distribution expenditures and effort were allocated to the test cities on the basis of what share of national spending these markets would normally enjoy. After a time it was apparent that "Analoze" was a failure. The necessary sales volume simply did not materialize.

Further research determined the probable cause. The average consumer apparently wanted to take his pills with water, reasoning that the water had some therapeutic effect. Preliminary research did not disclose this subtle defect in the product, but the acid test of putting money up for the product did. In this case the manufactured preserved his reputation and saved the considerable amount of money he would otherwise have invested in introductory promotional campaigns and initial production to "fill the pipelines."[1]

ii) A major soup company has used test marketing to evaluate alternative advertising appeals. Five different advertising appeals had been created for the company's line of heat processed soups. Management wanted to know which, if any, were the most effective and whether any of the appeals should be given greater/less emphasis in the various promotional campaigns.

The company decided that the best criterion for evaluating the appeals was the relative sales volume they stimulated and undertook a lengthy test process in carefully matched test markets. Ten test cities and two control cities were chosen; two cities were used for each appeal. Equal advertising was placed in local newspapers in the test cities. The total advertising expenditures were such that, in management's judgment, they would get measurable changes in the resulting sales volumes if the effectiveness of the appeals were different. The advertising expenditures were admittedly greater than those that could be sustained on national basis.

Continuous measures of sales volume in the various markets was maintained through audits of a sample of stores in each city. After about eight months, management felt they had sufficient evidence to put a valid relative ranking on the effectiveness of the five appeals tested.

Since disproportionate advertising outlays had been made, no attempts were made to project the results of the tests to a national basis - rather the results were considered only in their relationship to each other.[2]

As these cases indicate, the precise use which the marketer makes of test marketing depends on the important factors of the particular situation he is facing. He can, if the circumstances justify, test changes in almost any element of his marketing mix, for this small-scale reproduction of a proposed change is adaptable to any of a wide range of marketing applications. The following uses, however, are those for which test marketing programs are most usually designed:

1. *Testing New Product Sales and Profit Potential.* The term "new product" is used here in its broadest sense as inclusive of those products entirely new in concept and design and also those existing products that are undergoing substantial changes in design, price, or packaging. Although the manufacturer may not classify the latter as "new" in his own mind, it is quite likely the consumer sees such changes as constituting a "new" product, and hence it would be well to consider them in this discussion.

Test marketing can be used to determine whether a "new" product can be sold at a suitable volume and profit levels, such as in the previous "Analoze" case. Or, test marketing might be used to choose which of a number of alternative "new" product ideas should be adopted, by an actual test of the sales volume each alternative achieves. A frequent use of test marketing, for instance, is the determination of which is the most suitable of several proposed package designs.

2. *Determination of the Optimum Level of Marketing Expenditure.* In an ideal sense there is for every product, some optimum combination of marketing expenditure and sales volume that yields the *highest* profits. Test marketing can be a potent tool in the search for this

[1]Example taken from "Everybody Bought the Product but the Public" by R. K. Van Nostrand, *Sales Management,* June 5, 1959.

[2]Example from "Evaluating Advertising Appeals Through Sales Results" by James F. Merriman, *Journal of Marketing,* Oct. 1959.

optimum level. By properly varying the marketing expenditures in one or more test markets and observing and relating the results, the marketer can conceivably arrive at the "proper" expenditure level. It should be appreciated that, because of the many imperfections in the test marketing process, such estimates would naturally be more of an "order of magnitude" than precise dollar expenditures. Nevertheless, rough as they may be, such estimates can be of invaluable asistance to management.

A good example of test marketing work in this context is the recent use of mathematical techniques in the U.S. to relate the effect of varied advertising expenditures in test markets to the sales of advertised consumer goods. According to reports, these studies provided data from which rough estimates could be made of the tested products' expected sales volume at any level of advertising expenditure.

An area where the probing for an optimum level of marketing expenditure through test marketing can be particularly appropriate is in the introductin of a new product. Here, in addition to determining whether a new product can achieve predetermined minimum sales and profit goals, valuable information can be obtained on what the ultimate potential and possibilities of the product are and how much marketing expenditure is necessary to develop them.

3. *Determining the Effectiveness of Alternative Channels of Distribution or Selling Methods.* Test marketing can be used to increase distribution efficiency through the provision of information on alternative selling methods or channels of distribution. For example, one company used test marketing to determine the sales volume, costs, and profits that would occur under three alternative distribution schemes: (1) selling directly to retailers and using missionary salesmen; (2) selling through wholesalers and using missionary salesmen; and (3) selling through wholesalers and not using missionary salesmen. The results gave them a factual basis for planning their future distribution strategy.

4. *Determining the Effectiveness of Alternative Advertising Appeals or Media.* The previous example of a soup company's efforts to choose an advertising appeal amply demonstrates the use of test marketing to accomplish this objective. Variations in advertising appeals, in media, or in timing can be carried out in test markets to determine what the optimum mix of these factors is for a particular product. Such testing borders on the point of diminishing returns for test marketing, however, because of the large number of alternative arrangements of these factors and because the sales variations resulting from these different alternatives are often no larger than the variation that could be attributed to chance.

Test marketing can also be used to determine the effectiveness of single or alternative promotional offers, such as price-off deals or premium offers.

5. *Providing Information Helpful to Further Marketing of the Product.* This is an opportunity often overlooked or not fully exploited in the test marketing process. Too many test programs stop short at measuring sales volume alone, when valuable information on the product, consumer, trade competition, and other marketing aspects could be obtained through special studies conducted at the same time as the test. Such information could be useful in evaluating the suitability and effectiveness of the marketing program and pointing out areas where improvements could be made for the future.

A company testing a new product, for instance, might take advantage of this opportunity to gather information on who actually buys his product, frequency of purchase, attitudes toward the product, how the product is purchased, and so on. The same company might also study trade reactions to the product, the distribution achieved, shelf facings given the product, suitability of trade allowances, and discounts, etc. This information can all be used to plan and improve future marketing of the product.

It is possible to see in the foregoing the tremendous scope of possible uses of test marketing. There are many practical limitations, however, on what and how much can be tested economically, as will be discussed shortly. A practical limitation that should be mentioned now, however, is the confinement of the use of test marketing primarily to those companies selling consumer goods and more particularly to those companies selling high-turnover, low ticket consumer packaged goods. The principal reason for this lies in the frequency with which the products are purchased. A product such as instant coffee, for example, is purchased frequently by a large number of consumers; therefore measures of achieved sales volumes or variations of sales volumes in a test market can be obtained in a reasonable time period. On the other hand, such a product as a turret lathe, for instance, is purchased infrequently by only a few customers; therefore measurement of sales volume or variation of sales volume in a test would take an unreasonable length of time, if at all possible.

JUSTIFICATION OF TEST MARKETING

Lest the reader think that I suggest test marketing as a panacea for all marketing difficulties, let us turn to the subject of justifying the test marketing

program. Here, I think it becomes evident that the high costs associated with test marketing pose definite limitations on its use.

Basically, the decision of whether or not to test market rests on balancing the rewards to be gained from test marketing with the costs of doing so. This is no easy task, since many of these rewards and costs are intangible and cannot be precisely quantified, e.g., reduction of risk or opportunity costs. Nevertheless, all factors ,tangible and intangible, must be explicitly recognized and balanced if management is to arrive at a reasonable decision for or against a test marketing program. The principal rewards and costs are outlined below; their extent varies, of course, with the individual characteristics of any particular situation.

1. *The Rewards.* In general, the rewards for test marketing consist of reduced risk and/or increased marketing efficiency. Since both these factors have been covered, implicity or explicity, in the foregoing discussion, they will be treated briefly here.

The role of test marketing in reducing risk is quite straightforward as, for example, in the "Analoze" case. By providing a measure of the probability of success of a new product (or, for that matter any marketing change) on the national market, test marketing reduces the risk element in the large investment necessary to put such a product into national distribution. The larger the investment contemplated, the greater the justification for test marketing and its associated costs. In a sense, test marketing is insurance taken out on this investment, and the cost of test marketing is the insurance premium. This insurance provides us with a better idea of the probable success of the product and hence makes the investment more secure. Note that test marketing does not provide 100% insurance. The fact that a product is successful in test marketing is not a sure sign that it will be successful on the national market—there are too many uncertainties and difficulties in the test marketing process for this. What test marketing does is reduce risk, not eliminate it.

Test marketing also provides a reasonably inexpensive way of obtaining a concrete evaluation of alternative marketing schemes as, for example, in the soup company case. The marketer can make continuous efforts to increase efficiency through such experimentation without incurring the considerable costs of evaluating changes on a national scale, or not changing at all.

2. *The Costs.* The costs associated with test marketing can be grouped into two general classifications: (1) out-of-pocket costs, and (2) opportunity costs.

The out-of-pocket costs are those expenditures actually necessary to carry out the test marketing program. They depend almost entirely on the kind of program designed and on such factors as the kind and frequency of sales checks, the size and number of test markets, the promotional expenditures necessary for testing, and the special studies carried on in conjunction with the test. One estimate places average out-of-pocket costs per test area at from $10,000 to $15,000.[3] Relatively precise out-of-pocket cost estimates can be made for any test program being considered.

Opportunity costs are more intangible than out-of-pocket costs but are certainly of no less importance. The opportunity costs stem from two sources: (1) test marketing delays the full-scale introduction of a change for a substantial period of time, thereby costing the company the profits and economies it might have enjoyed through full-scale use of the change over this period, and (2) test marketing tips the company's hand to competitors, giving them time to copy, make adaptations, and enter the market with a similar innovation, thus reducing or eliminating the advantages, if any, of being on the market first. These opportunity costs, which boil down to foregone sales and profits, are real ones and must be carefully considered by management in making the decision to test market.

It should be appreciated that the opportunity costs for some test marketing programs, such as those used for testing new products, can be far in excess of the out-of-pocket costs. The implications of this fact are most pointed for those who choose to skimp and carry out half-hearted tests. Doing so is playing dangerously, and is often false economy. If a test is worth doing, if the opportunity costs can be sustained, then in all likelihood an out-of-pocket investment suitable to carry out a well-designed test is also justified.

Only through a very careful appraisal of the pertinent rewards and costs in any test marketing situation can an intelligent decision be made to test market. All too often one sees the results of management not carefully considering these factors, the poorly designed test based on the cheapest or most convenient facilities available, or the cancelling of an established test program after management suddenly realizes the full impact of the opportunity costs. The extent of both costs associated with test marketing will probably become more apparent in the following section.

METHODOLOGY OF TEST MARKETING

There is no standard methodology that applies, across the board, to every test marketing opportunity.

[3] "Market Testing" by Ernest J. Enright, *Harvard Business Review*, Sept.-Oct., 1959.

Rather, each occasion for test marketing has its own important and unique factors, and the exact design of the test marketing program must be evolved in the light of these specific factors. Some general principles in test marketing design can serve as a guide in laying out a specific program, however, and these will be outlined here. The task of applying these general principles to specific situations must be left to those familiar with the particular situation.

In deliberating on the following basic principles it is well always to bear in mind that the overall objective in test marketing is to create a small-scale simulation of the total market. Another factor worthy of constant attention is the compensation in design necessary to help accommodate the many uncontrollable and chance elements inherent in any test marketing program.

1. *Setting Objectives.* The importance of laying down specific, well-defined test objectives relating to the needs of the situation faced, *before proceeding with the test design,* cannot be underestimated. These objectives will constitute one of the primary determinants of the kind of test program used. For example, the two cases cited previously, different methods of setting promotional expenditures were adopted in keeping with the different objectives of the tests.

2. *Timing.* The basic aim in timing the test program is to allow sufficient time for the test market situation to achieve a realistic simulation of the expected conditions in the total market. Although not strictly applicable in every case, the following determinants of timing might be considered:

i) After the marketing change, sufficient time should be allowed for consumer purchases to stabilize to what would be the "normal" repeat purchase frequency. Cutting the time period short, and thereby measuring only initial purchases or purchases stimulated by an introductory burst of promotion or a deal, could very likely give an unrealistically inflated picture of the ultimate position of the product in the market. In a similar way, cutting the time period short on a product that is building volume through increasing acceptance or the cumulative effect of advertising would give an unnecessarily low estimate of the product's ultimate position in the market.

ii) If the results of more than one test are to be compared or averaged, the various tests should be executed simultaneously.

iii) If the product is a seasonal one, the time period should extend through the seasonal cycle.

iv) If uncontrollable events that would effect sales, occur in the test areas, the time period should be extended until "normal" conditions prevail. Examples of such events are strikes, poor weather, local economic slumps, or excessive competitive dealing and couponing.

v) Sufficient time should be allowed for normal competitive "counter-attacks."

vi) If there is doubt that average conditions are being met in the test market, the test period should be extended.

It is difficult to specify what the exact time period for a given test should be prior to actually carrying it out, because of the necessity of adjusting the timing to take account of uncontrollable factors. However, six to eight months is generally considered the minimum time period required for tests on consumer packaged products, and some tests extend to a year and more.

Timing is a critical factor affecting the validity of the test results. Despite this, it would appear that it is the first factor to be compromised in many test programs. Management, feeling the pressure of competition and the opportunity costs, is often hesitant to allocate the full time necessary for a valid test. Once the product is introduced on a test basis, there is a constant temptation, spurred by competitive reactions and pressures from within the company and the trade, to cut the test short and distribute nationally before reliable results are obtained. Although these pressures are real and must be anticipated, the argument is academic, for if sufficient time for a valid test is not foreseen, the test should not take place.

3. *Selecting Test Areas.* The primary determinants of the number of test cities or areas needed are: (i) the characterstics of the total market and the degree to which the test cities or areas available simulate these characteristics; (ii) the number of variables being tested; and (iii) the expected variation in sales volume due to the marketing change.

i) Since no one test city or area represents an exact miniature of a national or even territorial market, the marketer must increase the number of test sites he uses to the degree that he wants a simulation of his total market. In testing a product slated for national distribution in Canada, for instance, consideration must be given to the economic and ethnic differences in the total market. No one test market can adequately simulate these differences; the use of a single English-speaking test city in Ontario, for example hardly provides a rational basis for the projection of the results to the French-speaking Quebec market.

ii) As a general rule there should be a minimum of two test markets for each variable being tested. If geographic or other differences are suspected in the total market, this number would probably have to be increased. Control markets against which to measure sales variations must also be established.

iii) Generally speaking, the smaller the varation in sales volume expected from the marketing change the larger number of test sites required, so that chance variations will not obscure the results. In other words, the smaller the expected change, the higher the precision of the results must be and hence the larger the number of markets. This factor effectively rules out the testing of marketing changes from which one might expect only a slight variation in sales; not only are such changes (relatively speaking) unimportant, but they would be uneconomical to test.

Careful consideration of these primary factors would establish the ideal number of test markets. In practice, this ideal number is often reduced in the light of costs, for as the number of test markets increase so does the necessary out-of-pocket expenditure. This balancing of the number of markets with the costs involved is not necessarily bad, so long as the marketer is explicitly aware of the risks he is taking. Reducing the number of markets used below the theoretically optimum number reduces the probability that the test market results are a simulation of the total market and hence increases the risk of assuming that the test results will be duplicated in the total market. The reduction of out-of-pocket expenditures in this way must also be weighed in the light of the opportunity costs associated with the test program, as was discussed earlier. Bearing these factors in mind, however, it is only practical to achieve some balance between the number of markets and costs.

The following are the generally-accepted criteria for selecting test market sites. The exact use of these criteria and the emphasis given them depends on the needs of the particular test situation being considered.

i) The test market or markets should have population and economic characteristics comparable to the total market. For example, such population statistics as ethnic origin and persons per household should be fairly well matched. Economic statistics such as per capita disposable income and per capita retail sales should also be matched. In addition, the test markets should encompass an adequate and proportional representation of urban, suburban, and rural consumers.

ii) The test market or markets should be normal for the product class being considered, representing typical market development, penetration, and competition.

iii) Typical distribution facilities and outlets should be available and relationships with the trade should be normal. Such factors as chain store sales as a per cent of total food sales might be closely checked.

iv) The test market should have balanced media coverage similar to that available on the national scale.

v) Economic stability is important, so that strikes or localized slowdowns do not effect results.

vi) The test market should be sufficiently isolated from the total market to minimize outside influence and also to minimize overflow of test promotion.

vii) The test market should be large enough to provide meaningful results, but not so large that costs fall out of line. Cities of population ranging from 100,000 to 250,000 are most commonly used.

vii) Markets that are frequently used for testing might be suspected of being "over-tested." However, it is likely such markets also have a good record for testing.

It is hardly likely that any market perfectly meets these criteria. In this sense the process of choosing a specific market is a compromise between the desired characteristics and those available.

4. *Test Market Measurments.* The exact measurements made during a test marketing program are, of course, dependent on the specific purposes and objectives of the particular test. Almost any program, however, requires basic measurements of: (1) sales progress and (2) consumer and trade reactions, opinions, etc.

When setting up sales measurements, the following factors are worth consideration:

i) Measures of absolute sales volume, share of market, and side effects on other company brands are usually needed to properly evaluate the true progress of the product in question.

ii) Use of factory shipment data for a sales estimate can be misleading due to "pipeline filling" or inventory variations.

iii) Store audits are the most commonly used method of measuring sales progress. The frequency of audits is dependent partially on the rate of sales

of the product, with fast movers usually audited twice a month and slower items audited once a month. Since audits are generally carried out on only a sample of the stores in the test city, the sampling issues in every test must be carefully considered. The precision of the estimate based on the sample must be carefully controlled, for example, so chance variations do not obscure the real sales variations.

iv) Consumer panels can be used to measure sales progress, and provide valuable information on repeat purchases and brand switching, but cost-precision considerations often make this method less desirable than store audits.

v) In some tests, such as in new product testing, these may be sufficient justification to use both store audits and consumer panels. In this way the unique information provided by each method would be available for test evaluation plus a a cross-check on sales estimates.

vi) Sales measurements should be made before as well as during and after the test program. Control markets should be audited in the same way as test markets.

Consumer and trade reactions, opinions, etc. and other studies should be handled on a custom-tailored basis with regard to the specific information needed in the study. Usual marketing research principles should be applied here.

5. *Promotional Effort.* It is essential to carefully control promotional efforts in the light of test objectives. Where a projection of test results is contemplated, promotional effort must be carefully scaled so the test markets receive no more than their fair share of what would be the national promotional budget. If on the other hand, only relative changes between test markets are to be measured, promotion might be accelerated to accentuate the probable changes. This latter practice is dangerous, however, and should be used with caution.

Advertising effort is not too difficult to scale and allocate to the test markets. The control and scaling of sales effort is more difficult, yet no less essential. A disproportionate sales effort by enthusiastic salesmen, for example, could well jeopardize the validity of results by causing the trade to stock abnormally or by resulting in an abnormal allocation of shelf space.

6. *Other factors.* All other factors, not previously mentioned and other than the variables being tested, should be held as constant as is practicable so that test results do not reflect changes in these elements. Some examples of such factors would be changes in personnel, changes in management methods, or changes in the support being given associated or related products.

CONCLUSION

In this paper, the basic uses and principles of the technique of test marketing have been outlined. If test marketing is to become more a science and less an art, continuous attention must be given to these principles and to improving them. In the next paper, I will outline some of the unique problems in Canadian test marketing and discuss their implications for Canadian marketers.

THE ECONOMICS OF HEALTH SERVICES

Looking now over the longer period 1938 to 1958, health expenditure (both public and private) per head of population increased in real terms by 10 per cent; that is, at about the same rate as consumer expenditure as a whole. From this point of view also, it would be difficult to maintain that the introduction of the National Health Service has resulted in a spending spree. Indeed, one might hazard that, had people been left to make their own choices instead of having these choices made for them by public authorities, they might well have spent more rather than less on health services. If that were so, public health services would have been keeping expenditure down rather than pushing it up.

Although the costs per head of health services have not increased strikingly since 1938, this does not of course mean that the change-over from private to public expenditure is of no consequence. In 1938, health expenditure was two parts private and one part public. Today, it is virtually all public. This switch from private to public expenditure means, among other things that the level of taxation is higher than it otherwise would have been. How much lower taxation would have been had the National Health Service not been introduced is impossible to establish with any accuracy, but a reasonable estimate is more than £500 millions. Put in perspective, this means that purchase tax could be abolished or the standard rate of income tax reduced by two shillings. These are not negligible figures. It could be maintained with cogency that, had taxation been so much lower, the greater incentives to work, to save, to cut costs and to take risks would have raised total output and investment above their present levels and have enabled us both to enjoy the present standard of health services and to have additional resources for use in other directions. This is one of the costs of public health services that is too often overlooked.

—Dr. D. S. Lees, *Lloyds Bank Review*

The Case for Tariff Reform

The high cost of protective tariffs is noted by the author, who proposes a policy of free trade as Canada's ultimate objective. Professor Johnson denies that the tariff confers any substantial economic or political benefits on Canada.

HARRY G. JOHNSON

The preparation of a paper on Canadian external economic relations is a peculiarly difficult task. On the one hand, external relations in the modern world would cover a wide and not always interconnected range of issues. On the other hand, especially in Canada, external economic policy is closely connected in many ways with internal political problems and attitudes. It is tempting simply to list the major problem areas and discuss them one by one. However, I shall instead attempt to set my presentation in terms of a single central theme and develop policy proposals in the context of that theme.

The theme is that there has been, and will contine to be, a trend in the evolution of the world economy towards the regionalization of world trade. In Canadian terms, this trend appears as a trend towards ever closer economic relations with the United States, or, as the national inferiority complex calls it, growing "dependence" on the United States. But the growing interdependence of Canada and the United States is only one aspect of a general world trend, which impinges on Canadian external economic relations in many other ways. This trend makes even closer economic relations with the United States desirable, and, accordingly, Canadian policy should aim at some form of economic integration with the United States.

To emphasize the world trend as a guide for Canadian policy, however, is to lend implicit support to the protectionist fallacy, apparently widely believed in Canada, that a country's trade policy should conform to what other countries do. Quite apart from external developments, there are strong domestic reasons for reducing, and also for simplifying, Canada's trade barriers. These reasons are inherent in the economic waste and damage imposed on the Canadian public by the existing tariff; and they make a policy of lowering Canadian trade barriers desirable, quite apart from whatever concessions can be negotiated in exchange with the United States or other countries. Freer trade is, in fact, the chief proposal I shall make; the proposal for economic integration with the United States is simply the most obvious way of turning a policy of freer trade to beneficial account in negotiating with the rest of the world.

TREND TOWARDS REGIONALIZATION OF WORLD TRADE

As everyone old enough to remember it knows, thinking and planning for world economic reconstruction after the Second World War looked, under the leadership of the United States, to the restoration of a liberal system of multilateral trade and payments. At that time, Canada seemed to have a vital interest in such a system, owing to the traditional triangular pattern of Canadian trade, in which surpluses with the rest of the world, and particularly the United Kingdom, paid for deficits with the United States; and Canada gave its full support to the effort to re-establish a liberal multilateral trading world. In particular, Canada co-operated in the establishment of G.A.T.T., the successor to the proposed International Trade Organization, a body based on the principle of multilateral, non-discriminatory trade, and negotiated significant tariff reductions at the Geneva (1947) and Torquay (1951) meetings of that body.

CHIEF INFLUENCES

In the event, the reconstruction of the world economy proved a much more painful and long-drawn out process than expected; and the system of world trade that has evolved since the war has been both less liberal and less multilateral than anticipated. The chief influences on this development have been

[1]A discussion paper prepared for the Study Conference on National Problems at Queen's University, Sept. 6 to 10, 1960.

the delayed recovery of Europe and the United Kingdom, reflected in trade and payments arrangements discriminating against hard-currency (dollar) imports and in favour of intra-European and intra-sterling-area trade; the communist assumption of power in Eastern Europe and China, with its concomitants of bilateral state trading, disruption of traditional patterns of East-West trade in Europe, and Western embargos on trade with Communist countries; and the rapid postwar growth of the United States, which has drawn the trade of the other American countries towards the United States as compared with Europe. Regionalism has also been fostered by certain aspects of United States policy, notably support for economic integration as the solution of Europe's economic problems. Also, the gradual growth of protectionist sentiment in the United States has weakened both its interest in and its capacity for negotiating further non-discriminatory reductions in tariffs through G.A.T.T. In fact, little progress towards multilateral tariff reduction through G.A.T.T. has been achieved in the past decade, though the balance-of-payments problem of the United States may induce that country to attempt to breathe a little new life into it in the negotiations starting this autumn.

The trend towards discriminatory and regional trade in the world economy is reflected in the findings of a recent study that, whereas before the war about one-third of world trade was intra-regional, the proportion in the mid-1950's was about one-half. Its impact on Canada, which has been a passive adapter to it rather than an active agent, is reflected in the fact that by far the largest part of Canada's trade on both the export and import sides is conducted with the United States. With over 60% of both exports and imports accounted for by trade with the United States, Canada can no longer be said to carry on a multilateral, basically triangular, international trade; instead, her trade is concentrated, in a bilateral way, on the United States. In fact, another recent study has produced the somewhat surprising result that, measuring by the differences between the proportions of exports and imports accounted for by a country's trading partners, Canada is fifty-seventh from the top of a list of sixty non-Communist countries in degree of multilateralism of trade.

EUROPEAN ECONOMIC COMMUNITY

The trend towards regionalization I have been describing is most marked in the period from the end of the war until the middle 1950's. Since then, the remarkably rapid recovery and industrial expansion of Western Europe have done something to reverse the trend, both through expanding European trade with the rest of the world and through permitting the restoration of currency convertibility and the virtual termination of balance-of-payments discrimination against dollar imports. But far more important is the fact that the revival of Western Europe has expressed itself in a major step towards the regionalization of trade—the formation of the European Economic Community, a customs and economic union of the six major industrial countries of the Continent. The resulting threat to British trade with the six has in turn prompted Britain to take the lead in setting up another regional trade organization, the Free Trade Area, among the outer seven countries of Europe; this is clearly a halfway stage, and it seems likely that in the course of time the Free Trade Area will work out some sort of arrangement with the six for mutual reduction of trade barriers. There is already a substantial movement of British opinion in favour of joining the Common Market outright.

Neither of the two European organizations has yet been approved by G.A.T.T. Both involve some violation of G.A.T.T. principles, for while G.A.T.T. rules exempt free trade areas and customs unions from the general ban on discriminatory tariff concessions, both schemes contemplate discriminatory treatment of agriculture within their areas. But G.A.T.T. rules have previously been waived in respect of domestic agricultural programmes of member countries, and the fact that the United States approves of the Common Market will probably be decisive.

EFFECT ON CANADIAN TRADE

The E. E. C. will, if things go as planned, come into effect by stages over the next ten years or so. What its effect on Canadian trade, or on trade in general, will be is difficult to predict with much precision. The reason for this is that a customs union has two sorts of effect on the trade of non-members: first, by replacing the separate countries' tariffs by a common tariff, it alters the degree of protection against outsiders; second, by eliminating tariffs on trade between members, it extends the protection of each country's market against outside competion to producers in other member countries. Thus, even if the common tariff rate were lower than the tariff rate previously in force in any member country, it would be possible for the common tariff to provide increased protection against outside competition to producers inside the country. The indications seem to be, however, that Canadian exports of materials will not be significantly affected and that Canadian wheat exports will suffer less than those of other producers. On the other hand, the common market will almost certainly mean a loss of possible future markets for Canadian manufacturers in Europe and an intensification of European competition with Canadian and American manufacturers in the Canadian market.

MAIN SIGNIFICANCE

The main significance of the Common Market, however, is as a successful example of an approach to freer international trade, which is alternative to the multilateral, non-discriminatory, most-favoured-nation approach that is embodied institutionally in G.A.T.T., and which, as already mentioned, has achieved little in recent years. As such, the E. E. C. is important not only in itself but as a precedent for the formation of similar unions elsewhere in the world. A customs union for Latin American is already under discussion; one has been proposed for South-East Asia, and presumably one will be suggested for Africa in due course.

Considered in this light the Common Market has two features, apart from its general character of regional discrimination in trade arrangements, that are of special relevance to future Canadian trade problems, especially if these features are viewed in relation to other characteristics of the evolving system of world trade. The first is that, in a broad sense, the Common Market is a device for forcing modern industrial development behind a barrier of tariff protection. It differs from a national protective tariff in that it extends protection over a large and potentially more competitive market area and so increases the chances of successful industrial developments. In exempting customs unions from its general rules, G.A.T.T. therefore sanctions one potent means of industrial protection. Taken in conjunction with the other large loopholes available for protection, the generally accepted view that underdeveloped countries should be allowed as much protection as they consider necessary, and the emphasis placed rightly or wrongly on industrialization as the means to power and prosperity in the modern world, there is every prospect of growing industrialization supported by growing protectionism in the world economy and, consequently, of increasing competition in world trade in manufactures.

For Canada, this implies, on the one hand, that efforts to force the pace of industrialization in Canada by increased protection are likely to prove an expensive misinvestment of resources, on the other hand, that markets for Canadian industrial materials are likely to expand steadily. The same cannot, however, be said about foodstuffs; the second relevant feature of the Common Market is its insistence on continued special treatment of food production and marketing. This is merely one manifestation of the fact that, since the war, it has become virtually an accepted prerogative of nations to exempt their agricultural policy from any international rules of fair play, and the market distortions resulting from this are likely to become more and not less pronounced as time goes on.

The Common Market exemplifies the trend towards regionalization of world trade, the fundamental problem facing Canadian external trade in the future. Before I go on to discuss the implications of this trend from a more specifically Canadian point of view, there are certain aspects of the establishment of the Common Market that are worth noticing as being relevant to the Canadian problem. In the first place, the successful negotiation of the Common Market underlines the basic weakness of the method of tarriff bargaining on a most-favoured-nation basis exemplified in G.A.T.T. That method, as has often been pointed out, makes the negotiation of tariff reductions extremely difficult after a certain point, both because negotiations concern rates of duty for particular industries, which are thereby alerted to resist change, and because concessions have to be extended to other nations than those giving reciprocal concessions, so that concessions given are hard to justify in terms of concessions received. Across-the-board concessions restricted to countries making similar concessions are a far more promising way of achieving substantial reductions in tariff barriers. In the second place, the economic motivation of the Common Market was the belief that the markets of the separate countries were too small to permit full advantage to be taken of the opportunities offered by modern technology. It was for this reason that the members agreed to abandon their protective barriers against each others' goods—and this despite substantial differences in degree of industrial development and general economic conditions. Thirdly, so far as I know there was no suggestion in any participating country that the Common Market could result in a loss of national identity for any of the participating countries; rather their belief seems to be that economic union will strengthen the influence of the common European culture and outlook in world affairs.

GROWING ECONOMIC INTEGRATION WITH THE UNITED STATES

As it manifests itself in the evolution of the world trading system and the likely economic policies of other countries, the trend towards regionalization of world trade, together with other developments of a protective nature, implies that there is not much prospect for negotiating substantial reductions in other countries' trade barriers along multilateral non-discriminatory lines through G.A.T.T. The situation would be greatly changed, of course, if the United States were to be converted to a free trade philosophy, not only because it would have substantial bargaining power, but also because to many other countries it is the example *par excellence* of successful industrialization through protection, but such a conversion seems in present circumstances unlikely.

Nevertheless, there are many good reasons for Canada to continue to support G.A.T.T. It is, at least, an agency for international discussion of commercial policy and a medium for protest against unfair trade policies on the part of members. It offers a forum for influencing the evolution of the Common Market, especially important in view of the unresolved relations between the Common Market and Free Trade Area and the prospect of other regional unions. And it is at least an impediment, if not an obstacle, to overt increase in protectionism. It is understandable that Canadian supporters of the G.A.T.T. principles should be disappointed in the way it has turned out; but excessive pique on this account is somewhat naive, since it has always been evident that other countries do not match Canada in their enthusiasm for the principle of non-discriminatory multilateral trade.

TRADE POLICY DILEMMA

As it manifests itself in the evolution of Canadian trade patterns, the trend towards regionalization appears as the development of ever closer trade and investment relations between Canada and the United States. It is precisely this growing economic integration with the United States that poses the chief dilemma of Canadian trade policy as it appears to Canadians. On the one hand, exports to the United States have been the mainspring of Canada's rapid postwar growth, and imports of manufactures, capital, technique, and enterprise, from that country the factors which have permitted growth to be so rapid. On the other hand, this mode of growth has meant both a substantial shift towards the United States as a market for exports and supplier of imports, and substantial participation of American equity capital in Canadian manufacturing and resource industries.

This development, under the somewhat loaded description of "dependence on the United States", is regarded by influential sections of Canadian opinion as a threat to Canadian independence and national identity. The dilemma of policy is that any serious effort to reduce this "dependence" would require the bearing of costs that no one in comfortable Canada seems willing to pay. Restrictions on the flow of investment of American capital in Canada would reduce the rate of economic development. Diversion of Canadian trade from the United States to other trading nations or groups such as the United Kingdom, the Commonweath, or Europe, would involve economic costs in the form of a reduced standard of living and possibly rate of growth. The same is true of diversion from foreign to domestic trade by means of increased protection; and the contrary policy of reducing the relative importance of trade with the United States through expanding trade with the rest of the world by mutual reduction of trade barriers would encounter political opposition from the vested interests in the Canadian tariff—a political cost rather than an economic one.

Recognition of the dilemma, which is essentially a conflict between national sentiment and national self-interest, takes the form of proposing to tinker with the tariff without actually doing anything to it, and devising schemes for clipping the wings of the golden goose of American enterprise in Canada without scaring the bird enough to reduce its egg production. No one can really pretend that this is a noble and inspiring policy; in some of its manifestations, indeed, it produces proposals more appropriate to a banana republic than a great nation. The basic question it poses, it seems to me, is whether the national sentiment, which gives rise to the dilemma and causes so much worry to what the Gordon Report describes as "responsible" Canadians, is appropriate to contemporary circumstances, and sufficiently justified to be a foundation for policy. I find that very difficult to believe; rather, it seems to me, this vague anxiety about the closeness of Canadian economic relations with the United States is an anachronism, a hangover from history, which ought to be outgrown rather than preserved and encouraged.

TWO FACETS OF DEPENDENCE

"Dependence" has two facets—close trading with the United States, and large-scale participation of American capital in Canadian economic development. Neither of them seems to me to constitute a threat to Canadian independence and national identity, at least as I understand those terms. So far as trade is concerned, I cannot see how a country can lose its independence by growing richer and richer through profitable foreign trade; on the contrary, growing wealth gives both an increasing capacity for individual self-fulfillment and the resources necessary for the achievement of national objectives. Nor can I see how a country can become great by making itself poorer by insisting on producing at high cost within its borders things that can be obtained much cheaper by international trade.

Concentration of foreign trade on a much larger trading partner does, indeed, involve the risk of dislocations through sudden changes in that country's trading policy and the possibility of exploitation of the smaller country by the larger; but the risk of sudden changes in American policy seriously harmful to Canada diminishes as economic and political relations between the two countries grow closer; and I do not think it can be seriously argued that the United States has in the past or will in the future attempt to exploit Canada.

So far as American ownership of Canadian enterprises is concerned, I have read the Gordon Commission Report and related documents carefully for any evidence that such ownership had led in the past, or may lead in future, to any serious violation of Canadian sovereignty or loss of independence. All I could find is a general statement that decision-taking by non-Canadians might produce different decisions than decision-taking by Canadians, together with a doubtful assumption that Canadian businessmen always take decisions in the national interest. Nor was I convinced that the proposed remedies for this hypothetical problem would be either workable or effective; it seems to me that if corporate operations raise questions of the public interest, the public interest is more appropriately safeguarded by its legislative guardian, Parliament, than by shareholders and directors qualified only by Canadian citizenship to judge the national interest.

POLITICAL AND ECONOMIC REGIONALIZATION

Anxieties about Canadian dependence on the United States are understandable in terms of the past history and evolution of the Canadian nation; but they do not seem to me to be appropriate either to the present stage of Canadian economic and political development or to the present and emerging position of Canada in the world at large. This is perhaps clearer when one looks at Canada from the outside, in the context of world economic development, than when one looks at Canada from inside, in the context of daily life. From the outside, there is no doubt that Canada is an established and independent nation, playing a distinct role in international affairs. But, and this is a point on which Canadian opinion seems to be lagging behind the course of events, Canada is an American nation, an integral part of the North American political and economic continent; and Canada is becoming increasingly an integral part of North America. Further, both political and economically, the general trend of world evolution is toward regionalism, toward political and economic organization on a continental or area rather than national scale. The style is set by the United States and Russia; Europe is moving definitely in that direction; China and India are just getting started.

TO RESIST OR CO-OPERATE

Seen in this context, the domestic Canadian debate about dependence on the United States is a debate over the symptoms of fundamental change. The choice, in economic affairs as in political, is whether to resist change or to co-operate with it. Effective resistance would require agreement on the desirable alternative and acceptance of the drastic policy changes required to bring it about; I judge that no one in Canada is prepared to contemplate a serious step towards national insulation from the rest of the world. That being so, the choice is between going along with the trend, but reluctantly and uncertainly, always looking backward over one's shoulder and tripping over one's feet, or going along with it confidently and intentionally, looking ahead and avoiding pitfalls.

In concrete terms, the choice is between resisting the trend towards closer integration with the United States, and making a definite move to confirm and accelerate it. Economically. it seems to me, the arguments for integration with the United States are overwhelming; and, for reasons that I have already touched on, I do not believe that integration with the American economy would constitute any threat to Canadian independence.

RECIPROCAL FREE TRADE

Specifically, I propose that Canada should seek to negotiate reciprocal free trade with the United States. I suggest a free trade area rather than a customs union or a more comprehensive economic union embracing co-ordination of economic policies and planning because, while a free trade area requires a customs check on the origin of goods crossing the frontier and a set of rules defining the origin of goods made with imported components, whereas a customs or wider union raises no such administrative problems, it leaves much more latitude to members in their dealings with other countries—a freedom which does seem to me an essential of Canadian independence. Again, while a free trade area allows only the free movement of goods, and there are possible economic advantages in the free moment of persons, capital, and enterprise, and the co-ordination of fiscal and other policies attainable through an economic union of the European type, most of the advantages of international mobility of factors of production are already available under existing Canadian-American economic arrangements; and the co-ordination of other policies, where required, can be handled by inter-governmental negotiations of the type already customary. Moreover, neither country practices the type of economic planning presupposed by a union of the European type.

A free trade area would be quite consistent with the rules of G.A.T.T., with one important exception. This exception arises from the fact that, in all probability, neither country would be agreeable to free trade in at least some of its agricultural products—those subject to support price policies and other agricultural subsidy and intervention programs. These policies are a special problem which I shall not go into; but it seems likely that previous G.A.T.T. decis-

ions and the prospective acceptance of the Common Market would allow special arrangements for agricultural products to be justified under the G.A.T.T. rules.

A free trade area would be of great economic advantage to both countries, and especially to Canada. It would give Canadian producers free and, what is perhaps more important, secure access to the American market. It would also lower the cost of living in Canada and raise Canadian real income towards the American level.

The chief argument usually advanced against the formation of a free trade area, or any other move towards free trade for that matter, in other countries as well as in Canada, is the adverse effect it would have on existing protected manufacturing industry. This objection is, on the contrary, the strongest part of the argument for eliminating protection. Protection is a means of forcing the citizen to buy high-cost domestically produced goods instead of lower-cost imports, thereby subsidizing the inefficient use of national resources. Free trade, on the other hand, promotes the most efficient use of resources, and the adoption of it eliminates the waste entailed in protection. The cost of the present degree of protection to Canada is extremely high, and the gain obtainable by eliminating it correspondingly great, as I shall argue in more detail later. The cost to protectionists is justified by the desirability of having the protected industry within the country's borders; but it is not necessary to go into that debate at this stage, for reasons I shall now develop.

While replacement of protection by free trade would be certain to lead to some radical changes in the structure of Canadian industry, there are various reasons for expecting that it would not drastically alter the balance of the Canadian economy as between manufacturing and other activities, or even the relative importance of various industries.

In the first place, the American tariff in many instances has the effect of causing plants processing Canadian materials to locate on the American side of the border, though (apart from the tariff) cost and transport considerations would lead them to locate in Canada; elimination of the American tariff would therefore promote location of such processes in Canada.

Secondly, other manufacturing industries now located behind tariff barriers in the United States would be under inducement to locate in Canada to take advantage of abundant materials and lower wage levels. "Location" in this argument includes the expansion of Canadian production to serve markets across the border, and not just the movement of an American enterprise to Canada. One would expect, in particular, that many firms located in southern Ontario would find opportunities to expand to meet the demands of the rich market areas on the south side of the Great Lakes, which can be reached easily by road and water transport.

Thirdly, there are a number of Canadian industries that have either demonstrated their ability to compete with American firms in equal competition, or claim that they could do so. Fourth, one of the perennial arguments advanced by Canadian industries seeking protection is that it is the small size of the Canadian market that makes them unable to compete with American firms at American prices. This is not a valid argument for protection; but if the facts are as claimed, access to the American market on equal terms should permit such industries to thrive.

Finally, the arguments that have come up in connection with the Common Market and Free Trade Area negotiations in Europe, and some studies of the probable effects of European integration on the industries of the participating countries, are highly relevant. These showed that differences in comparative advantages and relative production costs were not generally differences applying to whole industries or firms, but rather differences applying to particular products. The conclusion was that adjustment to free trade would take the form of change in the commodity pattern of production of industries in the various countries, rather than in the industrial pattern of their economies. This conclusion probably would apply also to a Canada-United States free trade area; consideration of the wide variations in relative prices of products of the same industry in Canada and the United States, listed in the Appendix to Young's study of *Canadian Commercial Policy,* tends to confirm this.

I conclude, therefore, that unless someone can produce a strong argument to the contrary, a free trade area with the United States would not radically reduce the size of the manufacturing sector of the Canadian economy. I should add that the only strong argument I can think of to the contrary is that Canadian industry is so weak and inefficient that it cannot stand competition in a large market, an argument which could be true but would not be a very convincing objection to free trade with the United States.

There is one further point to be made about the proposal. Clearly, one of the practical problems would be the scheduling of the movement towards free trade. On this there seem to be two views, one favouring the reduction of tariffs by gradual stages on the Common Market plan, the other favouring full tariff elimination on a given date set well in advance. Either

alternative may appeal to a particular industry. There seems no obvious way of deciding which is preferable; I would, I think, favour the second alternative, possibly with different dates for different industries, especially if provision were made for special governmental assistance for moving labour and capital out of industries and areas adversely affected.

THE REFORM OF THE CANADIAN TARIFF

Up to this point, I have been developing a general theme, the trend toward regionalization of world trade, and attempting to relate Canada's external economic relations and trade problems to that theme. This has led me to argue for an attempt to negotiate a Canadian-American free trade area. Success in this endeavour would obviously depend on whether the United States would be willing to negotiate too. I have no means of judging whether it would be so willing: it has been in the past, and the growth of European competition in recent years might help to make it willing to consider such a scheme now, if a definite Canadian approach were made. However, quite apart from the benefits that Canada would gain from exchanging her protective policies for a reciprocal free trade arrangement with the United States, there is a strong case for both reducing the general level of the Canadian tariff unilaterally, and reforming it so as to rationalize whatever protection is thought to be necessary in terms of the reasons why it is thought necessary.

THE CASE FOR PROTECTION

To argue this is to argue against what seems to be a growing, or perhaps merely an increasingly vocal, body of opinion in favour of increased protection in Canada. Before I develop the argument for tariff reform, I should say something briefly about some of these arguments for increased protection. I propose to be brief for two reasons. The first is that, intellectually speaking, the case for protection is like the Powder River—a mile wide and an inch deep—and there is little point in wasting time arguing the logic of a long list of arguments none of which will stand up long enough to be knocked down. The second is that romantic and appealing as are many of the ideas that favour protection, the hard facts of the matter are that protection is nothing more than a system of taxing the public in order to subsidize the protected industries, and the practical question is not whether the ideas appeal but how much it costs to buy them and whether the amount you get is worth the price.

INDUSTRIALIZATION

For brevity, I shall discuss only three of the arguments for protection of Canadian manufacturing. The first, and the only one I have found in the recent Canadian literature that has any serious pretensions to intellectual status, rests on the contention that industrialization is the mainspring of economic growth, through its effects in promoting the development of skills, the application of technology, and the improvement of technology through research. This contention has some cogency as a general description of the nature of industrialization by protection in backward countries. But it does not follow that it is necessary to protect industry in a rich and growing economy, which is already familiar with the application and development of modern technology, like Canada; and I know of no evidence which supports the view that the development of industry behind the tariff, rather than the export of resource products, has been the foundation of Canadian prosperity and growth in either the distant or the recent past. Rather, the development of industry in Canada has been a response to the growth of wealth based on exports of resource products; and the effect of the tariff has been simply to make the Canadian industrial sector somewhat larger at any one time than it would otherwise have been.

SIZE OF CANADIAN MARKET

The second argument is based on the contention that the small size of the Canadian market raises Canadian costs and makes Canadian industry unable to produce at competitive prices; if the tariff were increased so as to give Canadian producers a larger share of the market, it is claimed, Canadian industry could produce on a larger scale and so reduce costs. This argument suggests the obvious question: if the Canadian market would be large enough with the tariff for the Canadian producer to produce on a large enough scale to reduce costs to competitive levels, what stops him from producing on that scale without the tariff? The market is the same size, with or without the tariff; the tariff keeps out the foreigner, but does nothing to increase the size of the market. A second relevant observation is that, in many protected industries, the size of firms is considerably smaller, and their number larger, than is consistent with most efficient production. This suggests that the tariff itself creates conditions under which firms produce on a small scale and at higher prices than they otherwise would do; the subsidy to domestic producers that it provides fosters the development of what economists call oligopolistic market structures.

HIGH-WAGE CANADIAN INDUSTRY

The third argument is the familiar argument that high-wage Canadian industry should be protected against low-wage foreign competition. This argument

is generally phrased so as to imply that the high wages are paid out of sheer generosity on the part of the employer, a generosity seldom manifest in wage negotiations. In fact, the high wages reflect the generally high productivity of the Canadian economy, and inability of a particular industry to pay them without tariff assistance is a sign that the efficiency of the industry in question is below the Canadian average. Why should such inferior performance be rewarded by a public subsidy? Reference to low foreign wages is a way of diverting attention from that awkward question.

THE COST OF PROTECTION

These are only three of the many arguments for protection. Let us now look at the other side of the picture, the side rarely mentioned by protectionists, the cost of protection. As I have mentioned, the tariff is a device for taxing the public and subsidizing the protected industries: the tax takes the form of making the consumer pay more for the goods he buys than he would have to pay for them on the world market, the subsidy takes the form of allowing protected industry to charge more for its products than their world market value. How much does this tax-subsidy arrangement cost the Canadian public?

Thanks to Professor J. H. Young's study of *Canadian Commercial Policy* for the Gordon Commission, we now have a rough but fairly reliable estimate of the cost of the tariff to the Canadian public. Young estimates that the cash cost—the excess of the cost of Canadian-produced goods privately consumed over the cost of the equivalent imports —"amounts to $0.6 billion to $0.75 billion or about 3.5% to 4.5% of gross national expenditure net of indirect taxes." This excludes the effect of protection in raising the cost of government expenditure, and also its effect in raising distributive margins; if these were included, Young believes that the resulting figure (for 1956) would be of the order of $1 billion.

ONE BILLION DOLLARS PER YEAR

One billion dollars per year is a lot of money, even in Canada. Considered as a tax imposed on the Canadian public, it may be compared with the explicit taxes. It amounts to over 80% of the amount of individual income tax collected (for 1956) and to about 22½% of the budgetary revenue of the Government of Canada (for the same year); in other words, the taxation levied on the public through the tariff is nearly one quarter as much as is levied through all other federal taxes. Do the benefits conferred on the public by protection justify the level of taxation? I find it impossible to believe that they do.

One can look at the matter in another way. One billion dollars is about 4 1/3% of 1956 national income. According to the Gordon Commission, the Canadian standard of living is between 25% and 30% below that of the United States. Protection, therefore, can be said to account for between one six and one seventh of the difference between the Canadian and American standards of living. It is usually argued, rightly in my opinion, that the lower Canadian standard of living is part of the price of national independence. But does the current level of protection contribute enough to national independence to justify this much further reduction in the Canadian standard of living below the American? Again, I find it impossible to believe.

CONCLUSION

The cost of the existing level of protection seems to me unjustifiably high, considered both in relation to the level of other taxes on the Canadian public and in the light of its effect in reducing the Canadian standard of living. I propose that it should be lowered, by lowering the degree of protection through lowering the general level of tariffs; in other words, I propose a policy of freer trade. I would propose a policy of free trade as the ultimate objective, because I do not myself believe that, in the present stage of development of the Canadian economy, the tariff confers any substantial economic or political benefits on Canada; but I confine the proposal to a reduction of tariff barriers because there may be cases in which some moderate degree of protection is thought to be worth the cost it imposes on the public.

So far, I have discussed only the aggregate cost of protection and suggested that it is unreasonably high and should be reduced. When one looks at the detailed structure of the tariff, however, what stands out is the unevenness with which protection has been handed out to various industries and the irrationality of the pattern of protection that has emerged. The variations in the degree of protection enjoyed by various industires are not fully revealed in the differences between the tariff rates on their products, because tariff rates apply to products, whereas what matters is the protection accorded to the processes actually performed by the domestic industry. To take a hypothetical example, which is not too far from industrial reality, suppose there is a tariff of 20% on copper wire, that the copper from which the wire is made is not subject to duty, and that the cost of this copper is 80% of the foreign manufacturer's price. The tariff permits the Canadian manufacturers to charge $1.20 for wire that would cost $1.00 if imported; but since $.80 in each case is the cost of the copper, the Canadian manufacturer is in fact able to

charge 40c for making the wire out of the copper, whereas the same manufacturing process would only cost 20c if performed by the foreign manufacturer. Thus the effective degree of protection accorded to the manufacturer of wire is 100% and not 20%.

So far as I know, no one has attempted to analyze the effective protection awarded by the Canadian tariff to the particular manufacturing processes carried on by Canadian industries. Young's calculations of the cost of protection for particular industries do, however, show some remarkable differences, differences to which it is impossible to assign any reasonable explanation in terms of the benefits that protection is supposed to confer on Canada. To take just a few random samples. What benefit does Canada obtain from the excess cost of $12 million or more per year that results from protecting Canadian sugar refining? What return is there for the protection of the tobacco products industry, which costs $30 to $35 million per year? Or for the protection of notions, which costs $4 to $6 million per year? Or for the protection of drugs, which costs $27 to $30 million per year? Or for personal care items, which costs $13 to $14 million per year? Looking at tariff rates, why are washing machines more heavily protected than sewing machines, while electric shavers enter free?

These questions are designed to emphasize the fact that, whether the arguments for protection as a buttress of national independence are valid or not, the structure of the Canadian tariff is extremely difficult to justify in terms of any sort of national objective. Apart from the case for reducing the general level of the tariff, there is therefore a strong case for reforming the structure of the tariff, in order to eliminate protection which serves no useful purpose and to give rational expression to any protection that may be thought desirable in the national interest. I propose that such a reform should be carried out, and that in carrying it out the emphasis should be placed firmly on the question of whether the purpose served by a particular tariff rate justifies the cost it imposes on the Canadian consumer.

ADDENDUM

AID TO UNDERDEVELOPED COUNTRIES

In preparing this paper, I have attempted to link problems of Canadian external economic relations to a central theme and to produce concrete proposals for discussion. This has inevitably meant curtailing or completely omitting the discussion of some aspects of external economic relations. One such aspect of external economic relations, which did not fit into my general theme but which should not be forgotten, is the question of economic aid to underdeveloped countries. This is, in my view, essentially a political rather than an economic question, in the sense that there is very little case for such aid on strictly economic grounds. Nevertheless, I firmly believe that Canada is under a strong moral obligation to furnish such aid, and should undertake a commitment to provide aid on a substantial scale.

General humanitarian considerations aside, the obligation seems to me inherent in Canada's position as a country, rich in natural resources, which restricts direct access to those resources to people of white descent by a severely discriminatory policy, and restricts indirect access to them through trade by a policy of protection of domestic industry. Relaxation of at least the discriminatory features of immigration policy would make some small contribution to improving the lot of the underprivileged masses of the human race; reduction of tariff barriers against the exports of underdeveloped countries would be a more substantial contribution to the economic development of those countries, and would benefit Canada also by raising the Canadian standard of living. But given the magnitude of the problem, and Canadian attitudes favouring restriction of the entry of both people and goods to the Canadian economy, substantial contributions of both capital and technical assistance for development should be the main aim of policy in this respect. The fact that Canada is herself reliant to a large extent on foreign capital and enterprise for her own economic development is not an argument against foreign aid, any more than a businessman's need for capital to expand his production facilities is an excuse for his not contributing to the support of his church.

I would propose, therefore, that Canada should both co-operate in international schemes for assisting the economic development of the underdeveloped countries, and undertake direct commitments of her own on a larger scale than heretofore. Contributions of the latter type, particularly those taking the form of technical assistance, would probably be most effective if directed to countries facing problems which Canada has herself faced and overcome in the past, that is, countries whose development depends on the extraction of natural resources for export; it would also seem appropriate to concentrate such assistance on countries belonging to the Commonwealth.

COST CONTROL THROUGH MASTER CLERICAL DATA

The adaptation of the principles of Methods-Time-Measurement to office work is described by the author, who points out that the use of MCD could substantially raise efficiency from its present level, which he estimates at less than 60%.

A. R. DAVEY, C.P.A.

How effective is the modern office? 90%? 80%? 70%? Experience and research have shown that a company which operates without standards of efficiency for its office staff runs at less than 60% efficiency. Or, as an officer of the Chrysler Corporation of Canada has expressed it, "Four dollars out of every ten that is paid by your company for administering your business is being wasted."

The importance of measuring productivity in the factory has long been recognized. With the basic rates of Canadian labour at an all time high, no production manager can afford to ignore its impact on the final cost of his product. And the sphere is being enlarged to include many categories of indirect labour not previously considered measurable.

The tools for such measurements are the familiar work standards. Without them, mass production as we know it today could not exist. Because of them, important productivity increases are possible since work measurement permits the scientific planning of a job.

Now, at last, businessmen are becoming aware of the fact that the increased worker productivity, whose influence has been greatly felt in plant operations, has not been effected at the same pace in the office. Within our memory there was a ratio of one clerical worker to every *ten* factory workers. Today we are approaching a ratio of one clerical worker for *every* factory worker, and the picture is becoming increasingly worse!

In other words, the effective productivity of the factory worker has been rising steadily, while that of the office worker has not. While production, in units of output, has greatly increased without the addition of a single plant worker, the number of clerical staff is still rising. This evidence, however, is not quite as drastic as it first appears. Management has been demanding an increasing number of reports, creating a greater work load. Secondly, more staff functions have been added to industry, such as personnel, product research, and marketing. But these additional functions and activities account for only a fraction of the overall increase in the clerical labour force.

Productivity increase, as it applies to the total labour scene, has been due to many management techniques, which can be grouped under three main headings—mechanization; systems, procedures and methods; and work measurement.

The first of these, mechanization, has brought many improvements to a cost-conscious industry. Multi-purpose machinery and automatic controls have reduced the direct labour cost while increasing quality. In this aspect, the office has not been untouched; the everyday adding machine and desk calculator are so common that their role in cost reduction has become almost forgotten. Now it is the electronic computer that is receiving the lion's share of the attention as the innovation of the century.

The second main management tool is systems, procedures, and methods. In the plant, the production line has become the symbol of progress and efficiency, while its office counterpart is the steno pool, forms control, centralization of functions, and, in general, the elimination of duplication of effort and unnecessary data through proper work flow.

It is only in the third management technique that the plant far outstrips the office. Time and motion study, the predecessor of the improved technique of pre-determined standard times, has cut costs in factories by spotlighting bottlenecks, creating incentives, combining and splitting duties to improve efficiency, and increasing productivity generally. But the stop watch, which is the basic tool of time and

motion study, has never been popular in the office, nor has it proven fully effective on clerical operations. Work sampling methods have aided in some instances but have proven inadequate for the variety of occupations found in the modern office.

Thus there existed for many years a need for some type of yardstick to measure adequately the output of a clerical worker without timing him at the point of employment and without resorting to the statistical techniques of work sampling; in short, a set of pre-determined standards that could be applied to varying occupations, regardless of the speed at which the operator was performing the task at the time of setting the standard. Such standards should be levelled, should be considered at all times, and should be without the factor of personal judgment. A further requisite of the ideal yardstick for office work measurement is the ability to synthesize a new routine or operation without disturbing the worker who continues to perform the task in the old way.

METHODS-TIME-MEASUREMENT

The break through for clerical work standards followed the wide acceptance of Methods-Time-Measurement (MTM) as a tool for measuring the productivity of the production line. Methods-Time-Measurement is a collection of pre-determined times, based on mirco-motion studies, to perform all the body motions required to carry out a given task. It includes the basic hand motions of reach, grasp, move, turn, release, position, and disengage, as well as motions for other body members such as walking, standing, bending, turning, and eye movements.

In the search for a yardstick for clerical measurements, researchers found that the motions made by a factory worker in the plant have their counterpart with the office worker. They found, for instance, that the same type of reach that is used to get the soldering gun on the assembly line can be used to get the stapler from the desk, or that the grasp used to pick up a job ticket from a bench is the same as that required to turn a page.

MASTER CLERICAL DATA

Thus was born the concept of Master Clerical Data (MCD)—the adaptation of the principles of MTM to office work. Several modifications were necessary, however, before the new technique became really effective. It was found at the outset that some types of office work could not be measured with the MCD technique. These are:

1. Presence positions.
2. Supervisory and administrative positions.
3. Creative work.

The first of these includes such employees as switchboard operators and receptionists, who have few, if any, specific duties, but whose presence is required at all times during the normal work day. The second and third categories cover those positions involving a great deal of mental computation or thinking time, which cannot be measured by any standard known today. It is interesting to note, however, that whereas it was originally considered that all office jobs contained such a degree of thinking time as to render them incapable of being measured, experience has shown that, in actual practice, such jobs represent only a very small percentage of the working time.

The second major difficulty that presented itself was the diversification of tasks performed. Because of this, the minute patterns of MTM were found to be too time consuming to be practical. This difficulty was overcome by combining the smaller elements of MTM into larger MCD units, called activities, and by averaging the distances involved to compensate for the variances in office machines and equipment and the location of clerical supplies on different desks.

The Major activities included in MCD cover:

Body	Locating
Calculating	Office Machines
Fastening	Open and Close
Eye	Place and Remove
Get and Aside	Reading
Handling	Writing
Inserting	

Each of the above is further divided into specific activities. For example, the major activity of Eye is subdivided into identify, select, check, scan, and shift; while the several sections of Office Machines give times for operating many of the machines found in the modern office.

The exact MTM analysis for each activity is shown in the MCD Manual, so that the conditions under which an activity is being performed may be compared with the conditions under which the MCD standard was set. In the event that these differ significantly, they may be corrected by inserting the new MTM values. Experience indicates, however, that this is the exception rather than the rule.

DEVELOPING THE MCD PROGRAM

The success or failure of the MCD program can be determined by the thoroughness of the preliminary planning that precedes the installation and the degree of co-ordination between the control group

and department heads and supervisors. In addition, if the program is to succeed, it must have the initial and continuing support of top management, since the surveys will undoubtedly produce recommendations that will be unpopular with some members of middle management.

For this reason, it is essential that, as a preliminary to the installation of the program, a written announcement be made by a senior company officer to all employees notifying them that an MCD program will be undertaken. One of the points that should be covered in this original announcement is the company policy regarding persons displaced or disrupted as a result of the implementation of the program, whether the adjustment be through normal attrition or by other means. Such notification helps to allay the fears of the workers and prevents the spreading of untrue or partially true rumours with respect to the program. It also indicates the interest of top management in the new program.

The first step in the actual development of the installation is the formation of a working group to direct the program operations. This group may be known by any of several names such as the clerical control group, office control group, or clerical cost group. Its size will depend on the number of clerical activities to be measured and controlled. It can consist of the office manager, a member of the Industrial Engineering Staff in cases where MTM is being used in the factory, and, later, the clerical analyst or analysts. It should operate under the jurisdiction of a member of management such as the comptroller, since it cuts laterally across the already established departmental lines. It performs a staff function and is, in effect, the office counterpart of the Industrial Engineering Section.

One of the early activities of the group will be the consideration and design of the analysis and reporting forms to be used and the preparation of a block organization chart. The number of analysts required to effectively complete the program can then be determined to meet established schedules.

SELECTION AND TRAINING OF ANALYSTS

At this point the program divides into three phases. First the required number of analysts who are usually recruited from among the present company personnel must be selected and trained in the technique of MCD.

Concurrent with the analyst training, appreciation courses in Master Clerical Data are conducted for department heads and supervisors. While the actual measuring and setting of standards is a technical operation requiring an analyst trained in the technique of MCD, the developing of a successful program requires the co-ordination of all levels of management down to supervisors, and including the active co-operation of all office employees involved. Included in the appreciation course will be an outline of the MCD technique, time recording, production reporting, and control methods such as work credits, workload forecasting, and analysis of performance data.

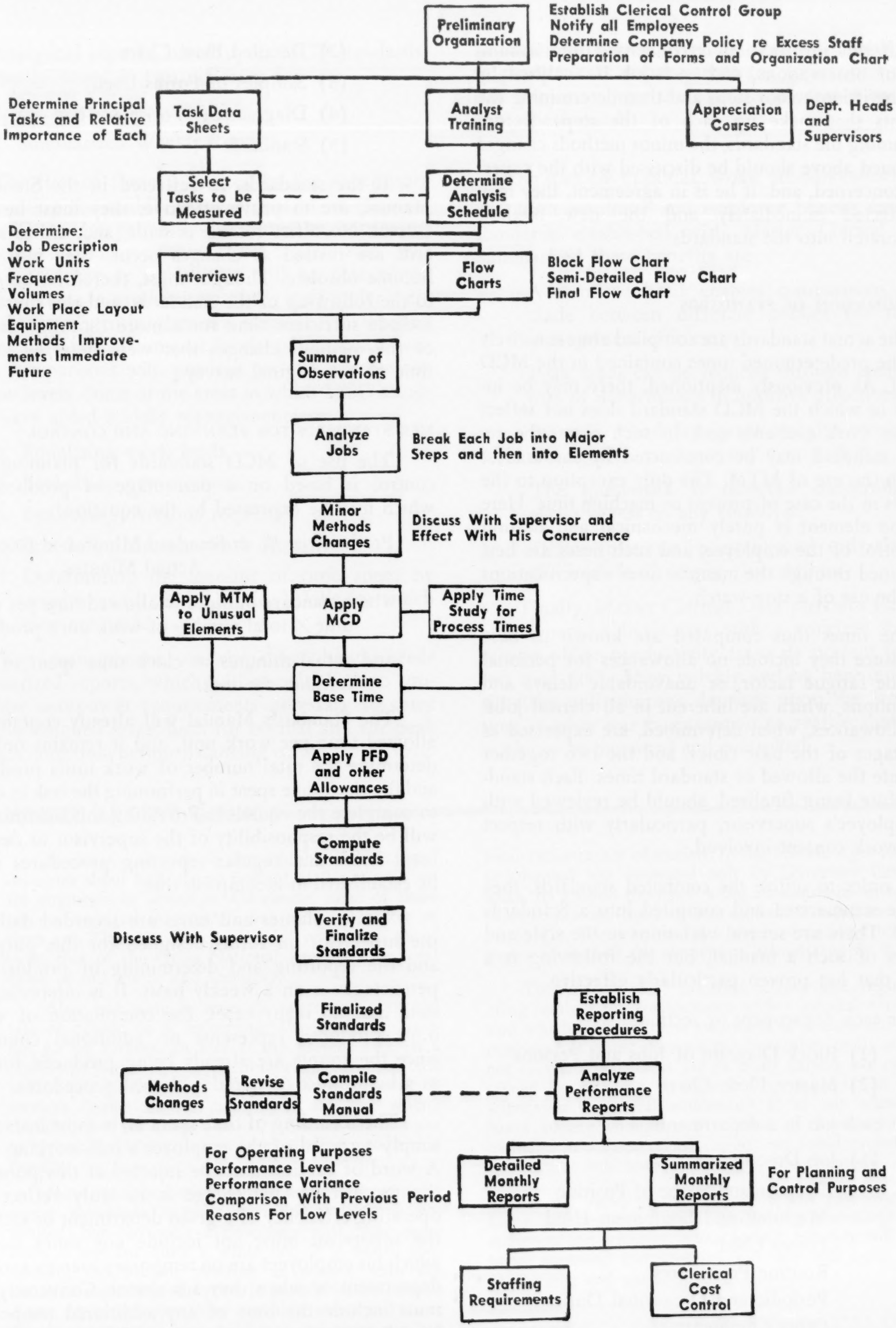
Towards the end of the analyst training period, the control group will issue task data sheets to the office employees. These sheets are completed by each employee daily during a two week period. Each sheet will show the tasks completed during the day, the quantities or frequency of occurrence, and the approximate time taken. The entire working day should be accounted for.

It is not supposed that the times shown on these sheets will be supremely accurate, but they do serve two useful purposes; first, to indicate the general activities of the person under review, so that the analyst may have a starting point for the employee interviews, and, second to pinpoint the minor or non-recurring tasks, which can be better covered by a daily allowance.

ANALYSIS SCHEDULE

Following the training of the analysts, an analysis schedule will be established using the organization chart and the task data sheets as bases. This will involve the sequencing of operations to be covered, together with realistic target dates for the completion of each stage. Unless this is done, the program will soon become disorganized and will drift helplessly. For purposes of projecting the analysis schedule, it is generally considered that a good analyst should be able to analyze jobs and set standards at the rate of two employees per week. Once the analysis schedule has been finalized, the task of setting standards can be undertaken.

Unlike Methods-Time-Measurement, the analysis of any job by Master Clerical Data is based primarily on interviews, with the employee contributing most of the basic information. As a result, he becomes a party to, rather than the object of, the study. During the course of the interviews, the analyst will make notes covering the job description, work units, frequency of occurrence, volumes, equipment used, and any possible methods improvements, together with whether these latter can be implemented immediately or must be deferred for future consideration. In addition, he will prepare flow charts and diagrams of work place layouts.



BLOCK DIAGRAM OF PROCEDURES FOR USING MCD STANDARDS FOR PLANNING AND CONTROL

All this information is condensed into a summary of observations, and each job is analyzed by breaking it into major steps and then determining the elements that make up each of the steps. Before determining the standards, the minor methods changes mentioned above should be discussed with the supervisor concerned, and, if he is in agreement, they may be effected immediately and the new method incorporated into the standards.

DETERMINATION OF STANDARDS

The actual standards are compiled almost entirely from the predetermined times contained in the MCD manual. As previously mentioned, there may be instances in which the MCD standard does not reflect the true work elements and, in such cases, the required standard may be constructed by the analyst through the use of MTM. The only exception to the above is in the case of process or machine time. Here the time element is purely mechanical and beyond the control of the employee, and such times are best determined through the manufacturer's specifications or by the use of a stop watch.

The times thus computed are known as base times, since they include no allowances for personal time, the fatigue factor, or unavoidable delays and interruptions, which are inherent in all clerical jobs. Such allowances, when determined, are expressed as percentages of the base times, and the two together constitute the allowed or standard times. Each standard, before being finalized, should be reviewed with the employee's supervisor, particularly with respect to the work content involved.

In order to utilize the computed standards, they must be summarized and compiled into a Standards Manual. There are several variations in the style and contents of such a manual, but the following is a format that has proven particularly effective.

For each department or section:

(1) Block Diagram of Jobs and Persons
(2) Master Flow Chart

For each job in a department:

(1) Job Description
- Purpose and Scope of Position
- Machines and Equipment Used
- Forms Used
- Routine Procedures
- Periodic and Occasional Duties
- Other Comments
- Possible Methods Improvements

(2) Detailed Flow Chart
(3) Samples of Forms Used
(4) Diagram of Workplace Layout
(5) Standards

If the standards, as reflected in the Standards Manual, are to prove effective, they must be kept current. No office routine is static, and, unless standards are revised as changes occur, they will soon become obsolete. Thought must, therefore, be given to the follow-up of the standards, and this must also include sufficient time for a more thorough review of the methods changes that were deferred at the time of the original survey.

MCD STANDARDS FOR PLANNING AND CONTROL

The use of MCD standards for planning and control is based on a percentage of productivity, which may be expressed by the equation:

$$\text{Productivity } \% = \frac{\text{Standard Minutes} \times 100}{\text{Actual Minutes}}$$

where standard minutes = allowed time per work unit × total number of work units produced

and actual minutes = clock time spent in performing the task.

The Standards Manual will already contain the allowed time per work unit, and it remains only to determine the total number of work units produced and the clock time spent in performing the task in order to complete the equation. Providing this information will be the responsibility of the supervisor or department head, and regular reporting procedures must be established to accomplish this.

Work volumes and times are recorded daily by the supervisor on forms designed for this purpose, and the reporting and determining of productivity percentages is on a weekly basis. It is interesting to note that, in many cases, the compilation of work units produced represents no additional counting since the counts are already being produced for, or as a by-product of, regular clerical procedures.

The recording of time spent is, in most instances, simply a record of the employee's full working day. A word of caution must be injected at this point. If the productivity percentage is to truly reflect the operating efficiency of a given department or section, the supervisor must not include any times during which his employees are on temporary loan to another department or when they are absent. Conversely, he must include the time of any additional temporary help brought into his department from outside, as well as any overtime worked by his own employees.

Analytical reports, based upon MCD standards, are usually issued in two different formats:

1. Detailed Weekly Reports.
2. Summarized Weekly Reports.

The first of these is utilized by the supervisors representing the middle management of an organization. These are primarily interested in improving operating efficiency within their departments, and their proficiency as supervisors will be determined by the increase in productivity of the staff under their control. Consequently, they are interested in detailed reports showing performance levels, performance variances, comparisons with previous periods, and reasons for low levels. Some of the areas in which MCD standards have aided middle management are:

1. Equalizing work loads.
2. Evaluating new methods.
3. Evaluating overtime requests.
4. Scheduling uneven work flow.
5. Determining the amount of time spent by employees on the high priced skills for which they are paid.

Top management, on the other hand, needs summarized reports, which will permit them to project the manpower requirements necessary to carry out the assigned tasks, both for normal and for peak periods, and thus permit balancing of the work force. In addition, they want reports that will enable them to predict staff requirements for expansions or for new projects where the operations are not currently being performed.

ADVANTAGES OF CLERICAL WORK MEASUREMENT

Both employer and employee benefit from the standards established with Master Clerical Data. Summarized these benefits are:

- A standard basis enables comparisons to be made between different offices for relative management efficiency.
- Peak loads can be reduced through amalgamation of departments to improve effectiveness.
- Planned, schedules operations give economy to management and service to customers.
- The guesswork is removed concerning the effectiveness of any employee.
- Office costs can be established and related to the work load despite fluctuations.

Finally, Master Clerical Data provides Canadian and American businesses with a concrete tool for raising office productivity from its present level of less than 60%. How quickly and by how much this situation will improve depends upon the length of time it takes our businessmen to realize that office work *can* be measured and controlled.

WHERE ARE WE GOING?

At the present time in some highly industralized countries about half of one percent of the population are engineers or scientists. Of course, most of these are not engaged in research, but about a quarter of them are. The rate of expansion of research is about twice that of the Gross National Product (the total value of our goods and services).

Also, not only is research expanding, but the rate of expansion is increasing. Obviously this cannot go on forever. In fact at the present rate, in a century or two everyone would be engaged in research and no one would be left to provide food, clothing or services. Sometime we must level off, but when? Certainly not for a few decades yet, since the increase in technological innovation is expanding production rapidly.

How many scientists do we need? The popular outcry sometimes suggests that this number is unlimited; but obviously a slowdown will come some time, if not for quite a while yet. It is worth contrasting the present position in science with the situation regarding education in general in the Middle Ages. As society got more complex, more and more people were needed who could read and write and had some rudimentary education. In the Middle Ages such as educated was possessed only by University Graduates. As a result there was a big expansion in universities to provide the civil servants and administrators of the day. We now need this much education from a junior clerk, and the elementary schools supply it.

Today, isn't most so-called science and engineering really a job for someone with a general education which includes some awareness of science and its methods? In short, haven't the humanists really sold out to the scientists as far as many careers are concerned by refusing to include any appreciation of science in a general education? If in our science-based society enough appreciation of science were included in a "general education" we could probably do without half today's engineers and scientists.

In my view, in the future we will pass over a hump and begin to have a diminishing percentage of engineers and scientists in our society, but they will be better engineers and scientists and they will really do engineering and science.

—Dr. E. W. R. Steacie, C-I-L Oval

THE CLIMATE FOR BUSINESS

For sound long-range planning, social, political, and technological changes in the world about us must be considered, as well as economic ones. Many of our actions are based on unrealistic attitudes and assumptions about the climate for business today.

T. W. KENT

There are businesses—mostly, but not entirely, small ones—where the relation between outside changes and what the businessman can do is very slight indeed. In those circumstances, the best management policy may often be for the cobbler to stick to his last, so to speak. That is to say, concentrate in the firm's productive job, do not be distracted by external changes, and by and large things will work out better than they will if you try to be more complicated.

That seems to me a perfectly reasonable view, for some kinds of business. However, for many others it is not a sound view, as they are considerably affected by the external environment in which they operate.

With that as a starting point, I want to address myself to two main aspects of the problems it involves. One is the nature of the things we have in mind, or should have in mind, when we talk about "the business climate in which we operate." The other is that I want to analyse a little the very varied ways in which this climate affects different kinds of business, and therefore the very varied techniques that are required to take account of it.

DEFINING "BUSINESS CLIMATE"

First, it may be worth considering why the word "climate" is so commonly used when we talk about the outside circumstances that affect our business. It is an analogy that has its roots, I suppose, in the time when agriculture was the predominant economic activity. Climate was the main variable affecting production. There is also an analogy with everyday living. Even for contemporary city-dwellers, the weather is the part of our physical environment that makes us most conscious of change; it is the variable that most frequently affects our moods and our minor decisions—shall we walk to the office, shall we go away for the week-end, shall we go downtown to lunch, and so on. And finally, I suppose, the analogy with climate has often seemed appropriate because of its seasonal pattern: when we consider the business climate, we are most often considering whether general economic conditions are going to provide fine weather or wintery weather for our business: we expect something of an up-and-down pattern that is analogous to the seasonal changes in climate.

These are the three very natural reasons that I can see for the use of the word "climate." There is an important warning implicit in them. What we are really thinking about, when we refer to the business climate, is all the variable part of the environment affecting our business. And that is not a clear-cut area. It is not something that we can define clearly, in the way that we can define climate and separate it from the other features of our physical environment. What we include in the business climate, and what we exclude, is empirical: it is a matter of what is changing and what is unchanging. And that varies: it is different for different times and places. Even for any particular business in a particular situation, it varies according to the length of time that is being considered. Many things that are, practically speaking, fixed for this year, and do not have to be taken into account as variables in this year's production planning, may not be fixed indefinitely. For purposes of long-term planning, we have to treat them as variables.

This point is especially important if we are to be realistic about the non-economic elements in our business climate. In the short run, the external changes that affect us are mostly of the kind that are dealt with by economists. They are changes in the general level of business activity, in investment intentions, in consumer spending and saving, in interest rates and exchange rates, and so on. But these are not the only things that change and affect the condition of our business. We are liable, perhaps, to consider the busi-

ness climate too exclusively in economic terms. For long-run planning, especially, that can be a great mistake.

It is true, of course, that a business is primarily an economic unit: it is a group of people, tens or hundreds or many thousands, who are associated for their economic purposes—for earning a living by supplying goods or services that other people are prepared to pay for. But that does not make a business purely economic. It is a social unit existing within the broader society of politics. It is profoundly affected by government policies, by the movements of ideas and attitudes in the community, by educational forces, by the general current of technological change, and by a host of social and political changes, which are often the major cause of long-run economic changes.

In most kinds of business, we have to plan ahead. The only question is how deliberately and carefully we plan. Obviously, we can not do it just by looking inward, at our own business. We must look outward, at the environment in which we are operating. And that is a complex thing. It is much more complex than the economist alone can assess, with his measurements of gross national product and the rest. It is an environment fashioned not only by economics but by people's desires for security and dignity and status, by their emotions and idealisms, by the institutional forces that are involved in our living together in great societies, as well as by technological developments that have no direct relation to economics. A business that is planning soundly has to try to assess the significance for its affairs of the way we are moving in our collective affairs as a whole.

ECONOMIC TRENDS AND SHORT-TERM PLANNING

Before elaborating on this point, it may be useful to make some analysis of the shorter-run aspects of the business climate and the way we assess it. Here, economics is and should be to the forefront. In the short run, the climate that matters most is the economic climate.

But how does it matter for the individual business? The answer, surely, is that the way in which the business climate affects us varies enormously; it varies with the type of business in which we are engaged, and with the size of the particular company in relation to its industry—a ratio that largely determines how much planning we can do and how much of what affects us is beyond our control.

The variability of these things for different sorts of business is, I think, obvious if we stop at all to consider the nature of the economic trends that we measure and make predictions about. As soon as we mention the economic climate, the first thing that everyone thinks about nowadays is the gross national product. That is the centre-piece of every prediction. But what is the gross national product? It is simply a measure of the sum of the activities of all the productive units, public and private, in the country. To define the g.n.p. is to say at once that there is no constant automatic relation between any one business and the total magnitude to which it makes its small contribution. The total is simply the sum of the parts, and you cannot, from the sum, deduce anything about a particular part unless you know its interrelations with other parts.

Thas is a statement of the obvious, but it is quite often ignored. In this respect we pay a penalty for the speed with which economics has become fashionable in industry. Managements have realized that the economic climate is important to them, and have either hired an economist or tried to make an intelligent layman's use of economic services of one kind or another. But they have not always examined very carefully how the economic climate affects them. The point I want to emphasize is that we can not use economics effectively in business unless we begin by analysing the way in which our particular business fits into the economy.

Let me give some examples from my own backyard. One of the Canadian companies in the group that I am associated with makes formaldehyde. Its main use is in the manufacture of plywood. Plywood in turn goes into a variety of constructional uses. New house building is an important one. So are some types of commercial building. Construction work on farms is quite a considerable item. And so are the retail purchases of the do-it-yourself homeowners. These different demands have quite different relations to the general movements in business activity that are measured by the gross national product. You cannot deduce anything about agricultural construction activity from g.n.p. forecasts. And new homebuilding is, of course, roughly contra-cyclical. Under government stimulus, it rises during the early and middle periods of a recession and is throttled down when anything near a boom approaches. In so far as there is a close correlation between the demand for formaldehyde and any simple economic indicator, it is with housing starts. And they move very differently from the economy as a whole; they are mainly under the influence not of economic forces as normally understood but of political judgments. They reflect the government's decisions about the extent to which, and the speed with which, it is desirable to stimulate housing in order either to fend off impending unemployment or reduce unemployment that already exists.

Let me take another example from a very different field. We are interested in a number of companies producing textile yarns and fibres, in countries at very different stages of economic development. The demand for those products certainly moves in the same direction as the general level of activity, but the relationship is very far from being a rigid one. In a rich country like Canada, people have stocking-up phases in clothes and other textiles, which tend to be especially marked in the earlier stages of an economic upswing but may be exhausted before the general boom reaches its peak; and they are considerably influenced by unpredictable factors, such as the sort of weather we have during the main buying periods.

In a poorer country, also, textile demand is very much influenced by the fact that people have phases of stocking up relatively vigorously with clothes. But the way this works is very different from the way it works in Canada. In a Latin American country such as Columbia, the rate of increase in industrial employment is a major factor in textile demand. A man who has just begun factory work is often unrecognizable the day after receiving his first pay. What he has done with that pay has been to buy himself new clothes, quite different from the ones he wore before he got the factory job. In no time at all, he is coming to work in a white collar and a blue suit. For a short time, while he builds up a minimum stock, a most abnormal proportion of his income is spent on clothes. Then he turns to other things, and his clothing demand settles down to a replacement basis, still very much greater than in pre-factory days but much below the short peak period. Our statistical techniques are not so developed that I can prove this, but I strongly suspect that if you could construct an index of industrial investment intentions in Columbia, you would find it quite as useful, as an indicator of textile demand, as any forecast of general consumer spending provides in a mature economy.

One more example will illustrate another complication in the way in which the economic climate affects the individual business. One of our companies is the world's largest producer of pentaerythritol, a chemical used in the manufacture of many types of paints and lacquers, especially those that provide the surface coatings for automobiles and for domestic appliances such as refrigerators. In other words, the final demands are in this case demands for durable consumer goods, which are closely related to movements in income and therefore to the general level of business activity. But if you were to draw graphs of consumer spending or gross national products in recent years, you would not find in them any relation at all to our sales of pentaerythritol. The reason is that there has been a technological change that has entirely swamped the influence of general business conditions: our pentaerythritol is mostly exported, and in much of the world's paint industry a large technical shift to the use of pentaerythritol has been taking place. In some circumstances, there has been no discernible relation between any business forecasts and our rate of increase of sales.

One could find many more complex examples, but these illustrate the point. It is, in essence, that we cannot apply economic forecasts to business in any simple, clear-cut way. We cannot just look at the economy and loosely relate it to our business. The prior step is to learn to look into our own businesses from an economic viewpoint. We must find out where exactly our various products go. We must trace back their uses to the ultimate source of demand, in order to understand what economic forces influence it. We must know how the industries concerned work and what is the regional distribution of demand. It is only with this sort of information that we can make any judgment as to which economic indicators are worth watching, and how closely they may affect us.

There are, of course, some businesses for which the answers to these questions are pretty obvious. Clearly a chain of department stores or a mail-order business, widely spread across the country, is vitally concerned with forecasts of consumer spending. I suspect that their main problem must be to decide how much refinement is worth while. How much more of value do they learn by breaking down the general estimates according to types of products and by cities and regions? There is no theoretical answer to those questions: a business can find out only by trial and error exactly what degree of detail in forecasting is of real assistance in preparing its sales budgets and making its production plans.

THE TOOLS OF PLANNING

Of course, the amount of error in the trials can be reduced by care in preparation. There are all sorts of consultants available to help in that, if a company does not have its own economist. And there is also a wealth of information to be obtained from published sources, from trade associations, and above all from Ottawa. I suspect that a great many businessmen would be amazed to realize how much help they can get by asking for it at the Department of Trade and Commerce and the Dominion Bureau of Statistics. No doubt there are exceptions, but generally speaking the Bureau is the best basic source of the statistics that will show up the inter-relationships between industries; and it is in Ottawa that one can get the best preliminary idea of what series of economic indicators are most likely to be useful in any particular business.

If and when we have found such indicators, what exactly is their use? I would say that they have to be evaluated along with the company's own direct business information. That, of course, includes salesmen's field reports and market sampling. In many lines of business it also includes the estimates of technological change, in products and processes, in our own plants and those of competitors, which we can get from our research and development staffs and from technical literature.

The job of the business planner is to put these various sorts of information together, to evaluate one against another. Sales forecasts derived from general business indicators are often very useful in imposing realism on the forecasts derived from market reports. On the other hand, assessments of technical changes are often an important safeguard against being led astray by business indicators. There are no rules in this area. In particular, it is important not to let the economic staticians mesmerize us with figures. A lot of elaborate projections may sometimes be helpful; but complicated arithmetic certainly does not in itself enable us to bet on certainties. In the last analysis, any sales forecast is an exercise of judgment, an evaluation of imponderables, and in many kinds of business the most we can hope for is that forecasts will, reasonably often, be close enough to reality to avoid the necessity for drastic revisions in production plans. If we do not often miss the boat or get caught with a white elephant, forecasting is achieving all that we can reasonably expect of it. The business economist who encourages any greater expectations is kidding himself.

So far I have dealt with sales forecasting, which is a basic part of any business planning. But, of course, the economic climate is certainly no less relevant to other factors in financial planning. In Canada, in the past five years or so, no one can have failed to see how much difference it makes in some kinds of businesss if you can form a realistic assessment of trends in exchange rates and interest rates. It is in this area that we are in especial need of a little more sophisticated economics, not least in the management of some of our banking institutions themselves.

THE SNARE OF PROJECTIONS

When I say sophisticated, I do not mean using more elaborate statistical techniques and coming up with more figures for answers. On the contrary, that is, as often is not, especially naive economics. It falls so easily into the besetting sin of business economics, convervatism.

The crudest form if this intellectual converatism is, of course, the tendency to assume that as things have been, they remain. We have far too much of that. But even more important, nowadays, is a slightly more subtle variant of the conservative mentality. That is the tendency to assume that, while things will change all right, they will change in the same directions and at the same rates as in the past.

Such projections of trends are, of course, the only possible basis for a great deal of economic arithmetic. That is what makes arithmetic so dangerous. For the mere fact that a trend becomes generally recognized has the effect of modifying the forces producing the trend. Peoples' expectations—which govern the next stage of the economic climate—are revised when they recognize the trend. For a while the trend may accelerate, as people jump on the bandwagon. But in that case it is soon likely to reach a turning-point.

If a company has been making especially rapid sales gains with a particular product, and getting very good profits from it, that does not mean we should regard it as a particularly strong trend to project. It is just as likely that we ought to look at it with special suspicion: it may well mean that competitors are going to expand production, that too many people will respond too well to the buoyant demand, and that before long the market will change sharply from buoyancy to over-capacity.

In other words, the very strength of the trend may be a warning that it is urgent to start planning what you will do when the market looks quite different. Smart business planning is to get your new projects ready before the old ones reach their peak profitability. This is another way of saying that the art of economic forecasting lies in appreciating the importance of expectations as well as trends. It lies in recognizing that a particularly strong movement in one direction is almost certainly a movement to which corrections are developing: for example, the time when the trend to bigger and bigger cars with more and more horsepower and chrome seemed to be most firmly entrenched in the United States was just the time when imports of small cars could be expected to start coming into their own. The point of economic forecasting, of looking outside at the general climate, is to make us better at foreseeing turning-points. It is, or should be, an offset to the *herd-instincts* that so easily predominate in the internal thinking of any one industry, or even any one corporation.

All this is, of course, the ideal. It is what we should be trying to do—but will always fall well short of achieving. Fortunately, perhaps, one can talk about the ideal without pretending to any skill in approaching it. But, unfortunately, the business economist can all too easily intensify the *herd-errors* rather than offset them. There is a sense, indeed, in which—just

as war is too important to be left to the generals—economic judgments in business are too important to be left to the economists. Or, to put the same point in a more constructive way, economics can play its full role in business only if management, generally, can establish with economists a genuine meeting-ground on which economics is brought to bear as part of a broad process of judgment.

NON-ECONOMIC TRENDS

This brings us back to the first of two areas of discussion raised at the beginning of this paper. Long term planning and major investment decisions require political and social and technological assessments of our total business environment, which is subject to many changes besides those of the purely economic climate. Here the business community faces a lot of difficulties of its own creation. Our business need is to assess, objectively and realistically, the political, social, and technological trends that are occurring around us. All too often, we do not do that. We are strangely inhibited about recognizing most of the ways the world is going; when we admit them at all, it is often to wring our hands and say that things are going to hell. When many of us talk politics, it is to decry the welfare state, declare the desperate importance of reducing taxes, moan about trade unions, and generally strike attitudes which we know perfectly well no Conservative government, let alone a Liberal or CCF one, is ever going to act on.

I doubt very much whether such views are in fact the serious opinions of any very large number of people engaged in managing business today. But they are the opinions that get expressed and are largely identified with business in the minds of the public. The businessmen who think differently—I would say, realistically—too rarely say so. As businessmen, that is our mistake. I am not referring to the political consequences of such opinions, although they can be unfortunate. The relevant point here is that our lack of realism in political and social attitudes, or at least in our talk about politics, has a bad effect on business itself; it seriously inhibits effective, long-term business planning.

HISTORY OF BUSINESS ATTITUDES

There was, of course, a time when the attitude of business to society was quite different. In the great days of private enterprise, the businessman felt that society was on his side. He was the progressive force, the liberator, the man who swept aside crusted social forms and ignorant ways of living, who broke down privilege and raised the general standard of living. That was the 19th century position, especially in Britain, and with some modifications in North America and parts of western Europe. In our times, it is the Communist commissar in China who sees himself playing much the same role as the free enterpriser played in the west until, more or less, 1930. That, incidentally, is one of the most significant keys to an understanding of our contemporary situation.

In the 19th century, society gave the businessman his head in a way that had never before legally belonged to private individuals not exercising responsibilities for government. Earlier in England and Europe, the barons of the middle ages had plenty of power and little restraint, but only at the cost of exercising definite responsibilities for government. The mediaeval Church at times succeeded in going its own way, with little deference to the State, but again only by taking on secular powers and responsibilities for itself. The 19th century businessman was the first person outside government to be given a virtually free rein to organize the activities of others without, in the technical sense, responsibility to anyone.

That was *laissez faire*. It worked on the whole well, to the advantage of society, while it lasted. But it depended on particular circumstances, which were inevitably transient, which indeed never existed at all over the most of the world, and which have now disappeared everywhere. It was rationalised in an economic and political theory, firmly built on a principle. But it was a principle that time eroded: it was that individual business units were too small to have any real power of their own, but instead were governed by the unseen hand of perfect market competition. That was the crucial point of classical economic theory.

The 19th century system faded because forces that it itself helped to bring into play destroyed the conditions that had created it. The main forces were the growth of scientific technology and mass education. The latter—education—inevitably led us to more genuine democracy. The former—technology—forced many business units to grow in size. It broke down the assumption of smallness, and without smallness *laissez faire* could not be justified. It disappeared for just the reason that the system's latter-day critics, the Fabian Socialists such as Webbs, Shaw, and Wells, said it would: the scale of organization became, in many areas of activity, too large for free competion and individual private ownership to continue. As business corporations grew, the State in one way and another took back some responsibilities and reasserted some of its control. It pulled on the reins, which in the 19th century had been unused.

All this is old history. And yet much of our conventional talk is still conducted as if business remained predominantly something that individual proprietors do alone, as if business has inalienable rights,

which it is wicked aggression, a denial of fundamental principles, for the State to invade. If that were true, most of the world has been, so to speak, living in sin most of the time. It is an attitude that just does not fit the facts today or the facts as they have been in history.

The very nature of human society is that its formal organization, through government, is sovereign, and sets the terms on which lesser ogranizations may exist and operate. There are very good reasons why the business corporation should wisely be left to operate pretty much on its own. That is, most of us agree, the best way to run most of our economy. But that is a practical judgment, not an *a priori* one. It has to be continually justified in the eyes of the community. To talk as if business comes first and the state is an unproductive, grasping, leech-like interloper is indefensible in theory and most unwise in practice. It separates business off into an intellectual ivory tower, or, perhaps more accurately, a dungeon. It is a self-imposed isolation from the ideas and forces that actually produce the Government policies that affect our businesses so closely.

THE CLIMATE TODAY

Of course, I am exaggerating. A good deal of business is in fact quite realistic about the contemporary world. The old attitudes are changing. It is important that they should change, quickly. It is important to break down completely the mental barrier that still quite often inhibits realistic business attitudes to government. As a small contribution to that, I shall make a few dogmatic statments about what I think are the facts of the world in which we live. Of course, I have no right to be dogmatic. If space permitted, these would be matters for argument, for legitimate differences of opinion. But the purpose here is not to make a case for my particular opinions; it is to illustrate the matters of climate on which realistic business thinking and talking is important.

1. The Welfare State is not only here to stay but will be extended in some directions. One may hope that it will also be made more efficient. But efficient or not, we are going to see more welfare expenditures, and, while we can well try to moderate them, that is very different from opposing them in principle or shouting damnation about the whole thing.

2. High taxation is here to stay. One can hope that some of its worst effects on business will be modified. But taxation as a proportion of national income cannot be expected to fall. What we can hope is that expanding government revenues will be on the whole better used. In particular, we should recognize that taxes devoted to education will, generally speaking, do more good for us all than would be done if the money were left in either our private or our corporate pockets.

3. Trade unions are not going to become any weaker. We may hope that they will become better run, but that is a gain for society, not an easement for management. We may hope that they will become more co-operative about productivity, and we may hope that management and trade unions together will get better at yielding unions the gains of higher productivity without continuously raising prices in the process. But such improvements, important as they would be, are not in any way a diminution of union pressure on management. With that we must expect to go on living, against a continuing background of government eagerness to maintain full employment.

It is no use crying that this is going to ruin the country, submerge our industries because of lower-wage competition abroad, and so on. That will not be believed. The public's attitude will be increasingly that it is management's job to see that the economy can satisfy, in some reasonable measure, the expectation of steadily rising standards of living that is becoming a conscious part of public attitudes. If we cannot do that, what are we for?

In business planning this means, among other things, that we must look very carefully at long-run cost changes as well as long-run sales estimates. The trend will be increasingly towards relatively higher costs in those labour-intensive industries and services that are least successful in offsetting higher wages by process and equipment improvements. We will need to plan our investments with awareness of that tendency.

4. With the Welfare State established internally, the trend that is now beginning is towards a world welfare economy. That is to say, the international differences in living standards must be narrowed. We will not have a stable world any other way. And we will, therefore, have to tax ourselves in order to provide capital for the process of international equalization. It is a process that will provide new trading opportunities for some of our industries but will damage others. It will be accompanied by certain kinds of economic nationalism, by new regional patterns of trade, and by a great deal of government initiative and regulation in the developing countries.

Our long-term planning will need to be based on a realistic evaluation of these tendencies and their effects —which gives us plenty to learn, and not only to learn but, even more importantly, to understand. We will have to become much more genuinely international-minded less sure that our way of doing things is the right way for other people. We are going to need, in a shrinking world, much less doctrine and much more understanding.

5. As an early step in this process, we have to recognize that the Soviet system is proving to be a very effective way of running an economy, in modern technological conditions. We will not, I trust, become any less certain of the superiority, for the spirit of man, of our political freedom. But we should not waste time going around the world preaching the virtues of free enterprise, as an economic system. That will impress no one but ourselves. The only things that will impress other people are economic performance, allied to the social virtues.

6. Against this background, we will have to look critically at the weaknesses of our own economy. One that is becoming glaring is the wastefulness of the level of advertising expenditures, allied in some cases to planned obsolescence, which in many industries has grown so rapidly. There are already significant signs that the public conscience is going to rebel. I do not profess to foresee to what kind of public measures to lessen advertising this will lead. But I do think that in one way or another the surfeit of advertising that we are now experiencing is likely to provoke a reaction, which should be allowed for in longer-term business planning.

7. In Canada, and in most countries, the move towards a more equal society is far from having run its course yet. Probably we do not need to expect much further narrowing of the spread of earned incomes after tax. But we can expect increasing taxation of inheritance. Indeed, given the pace of technological growth that is almost certain and the rate of educational improvement that we undoubtedly need, it would not be surprising if within a generation or two we see a virtually complete attrition of inheritance as a social institution in the economically advanced countries. I do not think that will create any really radical problems in corporate organization and finance, but it will certainly call for some adjustments in business planning, and especially in financial planning.

8. The big corporation will increasingly set the pattern of our economic organization. It is correspondingly more urgent that we should talk about our economic system as it really exists, and not according to a 19th-century ideology that has become empty. We must understand that when such issues were real subjects for debate, as long ago as the beginning of the century, those people were right who said that 19th-century capitalism could not survive the need for larger-scale organization. The same people were wrong when they though that this would mean the abolition of private ownership and complete state planning. In fact what we are achieving, in the large corporation, is the collectivization of private ownership and the development of adequate techniques of planning without state ownership.

That is an ingenious and, for the time being, satisfactory creation, provided we understand it and use it. This means that we should stop pretending to ourselves that we have kept the old *laissez faire* economy. We have not done that. What we have in fact done is to achieve a synthesis of which we can be proud. If we will develop a new ideology on that basis, fitted to the world as it really works today, we can begin to make the best of the modern corporation and its powers of business planning.

9. I have left the most fundamental thing of all to the last. The pace of technological change, which has quickened so much, is going to get faster yet. That is the consequence of the accelerating rate of increase in research and development that began 20 years ago, with the war. Its impact on our business planning has hardly begun yet. We will have to learn to cope with much faster obsolescence, with a much greater diversity in products and processes. The climate, to return to the word with which we started, is going to be much more quickly changing; less of the environment of our business will be fixed. The need to narrow the areas of uncertainty, by more careful planning, is correspondingly greater.

WHOSE CONSCIENCE?

This very refusal to accept responsibility for its conscience may in fact lead us to question whether business can have a conscience. A conscience must be related to someone or somebody capable or willing to recognise right from wrong. Even assuming some unanimity as to which business actions are right or wrong can be determined, it still leaves the problem of someone agreeing to accept responsibility for determining right from wrong. And as to this, it is not at all clear that business is willing to accept the responsibility. There is the serious danger that insufficient or too few influential businessmen will appreciate that the conscience of business is their responsibility and no one else's. Every businessman is as equally responsible as every other businessman. It is not sufficient to leave conscience keeping to an elusive "they." In this may be the very downfall of business morals. It is admittedly difficult to feel responsible for the general conduct of the whole business community and to feel remorse and chagrin for the actions of an elusive "body" of business, which sometimes turns out to be veritable chimera.

—The Banker

Organizational Decision Making:

New Science and Age-Old Art

This author reviews recent trends in decision making theory and points out a fundamental lesson taught by the study of the decisioning process: it is the vital role of an administrator to manage the decision process, as opposed to making specific choices.

CRAIG C. LUNDBERG

Anyone surveying the contemporary literature about administration, organization, management, or aligned fields is cognizant of the growing interest in and energy devoted to that area which is loosely labeled "decision making."[1] It becomes apparent that this is a subject of considerable theoretical development, which has felt the impact of computer simulation, and which is the growing focus of an interdisciplinary integration. The purpose of this article is to provide some comment on recent developments in the area of decision making, noting some of the current trends of research and certain significant conceptual developments, to indicate what the future direction of study may be, and to point out some thoughts as to the organizational and social implications of contemporary decision making theory.

The behaviour patterns in modern formal organizations have increasingly attracted the applied social scientist, especially those interested in patterns of social processes. In recent years there has been a large and persistent effort to unify several disciplines into a unified behavioural science. One evidence of this is the growth in interdisciplinary research.[2] A major recent movement has found the hopeful application of mathematical analysis (as distinct from the long-time use of statistical methodology) to behavioural problems. The mathematical theorist starts by stating some seemingly plausible assumptions about variables affecting behaviour in quantitative terms, then mathematically deduces the relationships among the variables. Then these relations are translated into statements about observable indices.

A resurgence of interest in a clinically-oriented descriptive research is occurring also. This form of research begins with the patient observation and recording of facts, then the processing of this data to derive certain tentative statements that explain the behaviour patterns. These statements of observed uniformities then become the basis for applying more rigorous research techniques that attempt to verify the observed patterns and go beyond the level that just spells out "how" things are. Both of the trends noted have as their aim the eventual development of an empirically-based theory of organizational behaviour. The social process that at present has perhaps the greatest amount of promise in unifying the above trends is that of decision making.

A WORKING DEFINITION OF DECISION

As often happens in a rapidly-expanding field, certain terminological problems tend to complicate the area. The term "decision" has focused our attention at the *product* of decision making for a long time, probably to the detriment of the field. Selznick states this succinctly:

> "Decision-making is one of those fashionable phrases that may well obscure more than it illuminates. It has the air of significance, of reference to important events; and the mere use of the phrase

[1]For three excellent bibliographies with a general, administrative and psychological focus respectively see: P. Wasserman and F. Silander, *Decision-Making,* Ithaca, New York: Cornell University Graduate School of Business and Public Administration, 1958; W. J. Gore and F. Silander, "A Bibliography Essay on Decision Making," *Administrative Science Quarterly,* Vol. 4, No. 1, 1959; W. Edwards, "The Theory of Decision Making," *Psychological Bulletin,* Vo. 51, No. 4, July, 1954.

[2]Interdisciplinary research here means cooperation by individuals who represent divergent training and interests or combining the methods which characterize different specialties.

> seems to suggest that something definite has been scientifically isolated. But decisions are with us always, at every level of experience, in every organism."[3]

The *product* of the process of decision making, that is, the end point selected from among the alternatives, is defined in this paper as "choice." The term "decision" is reserved to identify the whole *process* of decsion making, and hence will refer to those activities that contribute to choice. This may be emphasized by using the words of the philosopher Max Otto: Much trouble might have been saved had the noun 'decision' never come into use, had everyone learned to use instead a verb like "decisioning' or 'decisioned.' We are all in the habit of believing that a *thing* must somehow exist corresponding to every noun in the language.[4]

"Decision" in this article should be understood to refer to organizational decisions, as contrasted to personal decisions where the choices confronting the individual have consequences only for himself. This view of decision eliminates the phrase "decision maker," for while one person can be designated the choice-maker on the organization's behalf, it is easily discernible that others may contribute to the recognition of problems, the delimiting and evaluating of alternatives as well as to the final choice.

HISTORICAL OVERVIEW

"The decision is as old as life itself, for the biological mechanism for decision was a necessity for survival."[5] Thus, Bross suggests that the study of decisions was inevitable. The origin of decisions goes back to when man first became a social animal, when the problem of securing uniform choices in judgmental situations became pertinent. In a recent abstract, D. Willner offers an opinion as to the oldest formally-stated decision problem. She reports that it was posed by the French schoolman Buridan in the 14th Century.

> "A hungry ass, Buridan argued, placed exactly equidistant from two bales of hay would starve to death because the attractions of the two bales would be equal and opposite and so would cancel out."[6]

Logically the ass would starve, and for several centuries such problems as Buridan's both amused and confounded people. Today we would get out of the dilemma by assuming tropism, that is, that the ass's equilibrium situation is unstable so that the slightest deviation would precipitate motion toward one bale or the other. As we really do not know which way the ass would go, we are forced to invoke the laws of chance. Thus in such situations we can talk about deterministic laws that govern for large-scale affairs even where prediction of individual cases is not possible. The use of large aggregates permits assumptions regarding probabilities of some basic underlying event. This approach is consistent, even required, for those researchers who apply mathematics to behavioural problems. This sort of approach does not satisfy all researchers, however, and we find investigators who want to know how a particular individual will choose. These diverging interests lead to strikingly different research efforts.

Man as a "choosing" animal is a view basic to any consideration of contemporary decision ideas. It is maintained that the features of organizational structure and function depend on and are shaped by the characteristics of the human problem-solving process and perhaps rational human choice.[7] This view of man regards him as having wants, motives, and needs —an essentially goal-striving organism. The limitations of human beings, then, can be seen as the result of the limits of human knowledge and the capacity to learn and to solve problems.

The present knowledge and the postulated models of decision in the field represent many stages of development.[8] Modern attention to management decision making can be said to date from the writings of C. I. Barnard, an experienced executive, who, in his book *The Functions of the Executive* (1938), stressed the opportunistic element in decision. He offers one of the first classifications for choices: positive choices requiring overt action and negative choices requiring no action. The emphasis at this stage was with the influence of a choice in relation to an action.

In 1944, the book that has stimulated a Niagara of publications applying statistics and mathematics to decision problems was published. Von Neuman and Morgenstern's *Theory of Games and Economc Behaviour* (1944) made feasible and accentuated decisions as strategies, that is, how a sample or a set of objects is or is not determined to be a member of a specified population. A considerable literature has grown up

[3]P. Selznick, *Leadership in Administration,* White Plains New York: Row Peterson & Co., 1957, p. 29.

[4]Max Otto's statement had reference to the term "science" and is to be found in Max Otto, "Scientific Method and the Good Life," *Science and the Moral Life,* New York: New American Library, 1949, p. 91.

[5]I. D. Bross, *Design for Decision,* New York: MacMillan and Co., 1953, p. 17.

[6]D. Willner (ed), *Decisions, Values and Groups,* New York: Pergamon Press, 1960, p. xii.

[7]The leading exponent of this point of view is Herbert A. Simon. See especially his new book, *The New Science of Management Decision,* New York: Harper & Bros., 1960; and also see H. A. Simon, *Models for Man,* New York: John Wiley & Sons, 1957.

[8]A model is a system or object that stands in place of another, usually more complicated, system or object. A model is useful so long at it yields some useful conclusions, whereas a theory can be refuted by one contrary finding. In general a model gives intuitive understanding of the object modeled.

about decision strategies under the differential conditions of risk, certainty, and uncertainty.[9]

In 1945, Herbert Simon's *Administrative Behaviour,* a landmark in the field, appeared. Here man's rationality was made prominent, and for the first time decision-making became the focus of a major work of administration. Following this work, the decision models that appeared stressed a rational person who tried to maximize his gain in any and all situations. These "economically logical" models were obviously normative or ideal ones, usually also assuming the notion of a fixed set of steps or stages in the decision process. Assumptions about man, as having an unlimited rationality and infinite sensitivity to conditions, and about the complete information-availability of the environment could not be defended for very long by these early model builders. It was Simon in fact who achieved a major "break-through" in posing his *satisfying model.*[10] The idea of a person choosing the first alternative that satisfies him comes close to our intuitive notions of how people do decide. The full impact of this is still not yet recognized. It was the economists again who first began to elaborate upon what is essentially a "psycho-logical model." This type of model deals mainly with individual human beings and tries to explain and predict behaviour on the basis of man having an inherently rational way of behaving.[11]

At the present time ,either choice or some aspect of the decision process is studied in a variety of fields such as economics, mathematics, psychology, political science, philosophy, psychiatry, statistics, social psychology, sociology, and business administration.[12] The center of current ferment in decision theory seems to revolve around a few research organizations, such as the Carniegie Institute of Technology, University of Pittsburg, The Rand Corporation, and The Behavioral Science Division of the Air Force Office of Scientific Research, U.S.A., where a hetorogenous array of useful concepts and methods is utilized.

WHY THE CONTEMPORARY INTEREST IN DECISIONS?

In the behavioral sciences there is at present a shift to models and theories of a *dynamic* form rather than a static form. The decision approach clearly belongs to the dynamic form and, therefore, is an example of a *process* analysis. Process means *time* plus *change*—in relationships and conditions—and hence it is concerned with a sequence of events. If we understand scientists as striving towards better predictive models, we can understand the interest in decision from the following quote by Richard Snyder:

> ". . . there are two kinds of process analysis: interaction and decision-making. So far as I can see, there are only two ways of scientifically studying process in the sense employed here: the making and executing of decisions and the patterns of interaction between individuals, states, organizations, groups, jurisdictions, and so on. Interaction analysis does not and cannot yield answers to 'why' questions. Thus interactions can be described and measured but the explanation of patterns—why they evolved as they did—must rest on decision-making analysis."[13]

There has been a reshuffling of labour in the behavioral sciences in the last two decades. Along with this are some delineations in areas of study—areas different from the traditional delineations suggested by university departments. No single university department is concerned with decision, and we find decision theory transcending these specific content areas.[14] Thus the theoretical importance of decisions seems potent.

It still remains to be shown, however, why the study of decisions is significant for the practical-minded, the practitioner operating in an on-going organization. J. L. McCammy has this to say: "The making of decisions is at the very center of the process of administration . . ."[15] Simon echoes this when he states: ". . . decision-making is the heart of administration."[16] Livingston's comment serves to support these claims while expanding on the theme:

> "If we expand the concept of decision-making to include, (both) the process by which the decision is arrived at, (and) to include the process by which we implement or make the decision 'work' and if we further recognize that as a continuing dynamic process rather than an occasional event, then decisioning means some-

[9]For example see: M. J. Bowman (ed.), *Expectations, Uncertainty and Business Decisions,* New York: Social Science Research Council, 1958; or, R. D. Luce and H. Raiffa, *Games and Decisions,* New York: John Wiley & Sons, 1957.

[10]H. A. Simon had earlier provided another break through with his differentiation between ethical and factual decisions, a distinction which permitted political scientists especially to adopt the decision framework.

[11]An outstanding example of the mating of the psychology of decision and economics is G. Katona, *The Psychological Analysis of Economic Behaviour,* New York: McGraw-Hill Book Co., 1951.

[12]A brief bibliography of some non-mathematical sources for the reader interested in pursuing his reading in the field of decision making is appended to this article.

[13]Richard Snyder, "A Decision-Making Approach to the Study of Political Phenomena," in Roland Young (ed.), *Approaches to the Study of Politics,* Evanston. Illinois: Northwestern University Press, 1958, p. 11.

[14]D. Willner op. cit. This book's title contains two more examples of some "new" research focuses where no established discipline can claim exclusive rights.

[15]James L. McCammy, "Analysis of the Process of Decision Making," *Public Administration Review,* Vol. 7, No. 1, 1947, p. 41.

[16]Herbert A. Simon, *Administrative Behaviour,* New York: MacMillan and Co., 1950, p. 1.

thing quite different than heretofore and becomes the basis of all managerial action."[17]

One final quotation serves to firmly establish the value of "decisioning":

> "The business enterprise is one of the most pervasive and influential institutions of our society, and one in which innumerable important decisions and responses are made. These decisions and responses, in small and large enterprises, are links in the chain of factors determining the range of products available to consumers, the level of national income, the degree of economic security, the rate and direction of economic progress, and the distribution of income. These decisions and responses also significantly influence the character of human relations in industry, the quality of the lives of those who work in industry, and even the power structure of our society."[18]

A MODEL FOR DECISION

Most of the descriptions of decision processes have taken the form of a more or less elaborate series of steps to which we *should* conform in order to arrive at "good" choices. Those less interested in how choices should be made hope to describe how choices are actually arrived at. Decisioning can be described as comprising three major phases: becoming aware of the occasions requiring choices; discovering or inventing one or more courses of action; and making the choice itself. These activities do not equally occupy an executive's time, nor do they occur in the same proportions at different organization levels. The three phases, generally speaking, form a cycle, though much more complex than the sequence alone would suggest. For example a decisioning cycle could be envisioned for each major phase of the more general cycle. The implementation of choices often included by others as a step of decisioning can be seen as a decisioning activity no different than that actually preceding choice. Executing choices then becomes the making of more and more specific choices, until someone is confronted with making personal choices on his own behaviour.

The decision process as conceived above enables a model builder to differentiate between the aspects of "choice" situations that confront the decisioners, and to determine the potential actions or behaviours that can be enacted in response to those situations. The above conception, in addition, emphasizes the two main elements of decision: 1) the consequences of the potential means discerned; and 2) the evaluation, against some ranking of end states or conditions, of the potential outcomes of action. Note that these elements orient one's outlook to the present and future and play down past actions. Expectations, intentions, and preferences about outcomes thus become pertinent data.

The scheme of decisioning presented above is consistent with the processes of human problem solving, that is, the generation of sub-problems of the original problem until we find a sub-problem we can solve and then by successive solutions proceed to our goal or give up. The skeleton of the problem-solving process, and hence the framework within which the decisioning process resides, is as follows:

> "Problem solving proceeds by erecting goals, detecting differences between present situation and goal, finding, in memory or by search, tools or processes that are relevant to reducing differences of these particular kinds, and applying these tools or processes."[19]

THE IDENTIFICATION OF DECISION MODELS

While the conception thus far presented is a synthesis from current decision notions, the reader must be forewarned that the models presented in the literature do vary. How can someone identify and classify decision models? To answer this question several of the major ways in which models vary, that is to say the continua along which they range, are presented below. Terms pointing to the ends of the continua are listed in pairs. Those polar types, or extremes sit at the ends of the continua along which a particular decision can be planned.

The continuum between normative and descriptive has already been utilized above; the former represents decision schemes which tell how choices "ought" to be made, while the latter simply describes how they are made.

A second continuum is the degree to which models are concerned with repetitive and routine choices, here labelled programmed, as opposed to novel and relatively unstructured choices, or non-programmed. The term "program" is borrowed from and used in accordance with computer language, that is, a prescribed set of responses of a system to a complex task.

Another continuum refers to the amount a model is assumed to be deterministic or probabilistic. A deterministic model would be one in which all the parts of the model and the rules for their relationships are assumed to be known. A 'probabilistic' model, on the other

[17]R. T. Livingston, "The Theory of Organization and Management," *Transactions of the ASME,* May, 1953, p. 659.

[18]H. R. Bowen, *The Business Enterprise as a Subject for Research,* New York: Social Science Research Council, 1955.

[19]H. A. Simon, *The New Science of Management Decision,* op. cit., p. 27.

hand assumes the opposite, that the parts and rules of relationship are knowable but not known, and hence description and explanation is in terms of probabilities of occurrence. One further continuum classifies a model's design according to whether it is more suitable for matters of strategy or tactics. Since strategies embrace tactics, the question raised is to what level of choice is the model applicable. This can be tested by asking whether the model describes choices at the level of policy (strategy) or at the lower level of rules and procedure (tactics). Other ways in which decision models may be identified are whether they focus on the occasions for decision, the irrevocability of choices, the choice-maker, or the choice as opposed to the process of decision.

Some of the means for identifying decision models can also be used to identify choices. Thus a classification of choices can be constructed whereby a choice could be classified as relatively programmed, normative, tactical, irrevocable and made at a certain level in an organization. An hypothetical illustration of such a choice may exist when a foreman would say to his subordinates, "The policy manual states that all materials must be noted on the job ticket, and I say do it that way fellows."

THE INFLUENCE OF COMPUTERS

The development of decision models has certainly increased since the modern digital computer has been perfected as a practical device.[20] Computers have been instrumental in decision theory because they provide first, a means of *simulating* decision environments or the problem solvers themselves; secondly, a device to *automate* a growing number of routine organizational problem-solving tasks; and last, a way to apply more high-powered mathematical techniques. Particularly important has been the simulation development, for the imitation of behaviour and the relatively quick and economical duplication of a whole range of conditions provides the opportunity to really put models to the test.

It is through the extensive application of computers that much of the mystery surrounding human problem-solving procedures has been lifted. Using the idea of a "program," for example, the model builder can conceive of a hierarchy of programs, each able to organize the system's capabilities for responding to its (or his, if a human system) environment. His hypothesis is that any problem-solving device, mechanical or human, operates in terms of one or more identifiable programs that are responsive and adaptive to the environment and that can initiate the appropriate subprograms, which handle relatively simple symbol manipulating processes, which in turn tell the device what are the appropriate responses to make.

The questioner may quickly ask how computers or any "programmed" device could possibly be creative. The answer is a program that is constructed to modify itself to changing conditions. To use an analogy, the case method of instruction in business education is a means whereby the student is "programmed" to solve not only business problems but to continue to improve and adapt his problem-solving skills.

It was the use of the computer that brought researchers' attention to several of the focal ideas of current decision theory. The time dimension of decision has reaffirmed the delineation of means from ends, and in a sense has served to reduce an issue or problem in size or to contain it from expanding into a more complex one. The arbitrariness of designating ends or means has also been underscored, for, as any executive knows all too well, every policy seems to be somehow affected by some other policy. The concept of *search* has come to the forefront of much of the work in decision. Search is the activity that finds the information necessary to construct alternative courses of action, weigh the consequences of actions, and estimate the degree of goal attainment possible. "Good" choices can be said to be the product of search, not too little or too much, but in the right places at the right time. Closely coupled with the idea of search is the one of "feedback"; for searching out information is useless until it is fed back to the nerve centre of each decision phase, to the choice centre itself, and of course, to the implementing body.

SOME IMPLICATIONS

One of the most pervasive changes that the study of decisioning has brought to management is the point of view of looking at the whole problem, but not in the sense usually employed. Decisioning has attendant a set of attitudes and a frame of mind, which requires that the whole decision system be designed in light of its components, which are the individual decisions and their implications on the decisions that effect the system as a whole.

A related change is the increasing emphasis on planning, which is suggested from improved notions on decisioning. This emphasis will result not only from the high cost of operating (or not effectively operating) highly mechanized information-processing and symbol-manipulating machines, but also because of the level for which these machine-programmed choices will be made. There should be a thinning of middle and lower management ranks as more ade-

[20]A volume on the use of computers by management is J. A. Postley, *Computers and People,* New York: McGraw-Hill Book Co. Inc., 1960.

quate programs are devised to make the more routine choices that are in actuality made at those levels.

The centralization of management will undoubtedly be another change that will occur. This should follow from the increased economy and incentive that results from the replacement of lower level choice makers by mechanized means. This centralization of decision making will find top-management groups again focusing their efforts on choosing programs concerned with high level policy. This comment serves to point up one of the fundamental lessons that the study of decisioning has retaught: the vital role of an administrator is to manage the decision process as opposed to making specific choices. Of course executives will still have to make certain choices, but the proper function of the manager will increasingly be to make choices on the nature and functioning of the decision process.

The influence of a growing mechanization coupled with a growing automation of the decision processes should profoundly change the relation of men to work. The surest thing that can be said at present is that men will no longer be as involved in performing the work of an organization and will be more involved in guiding and maintaining the system that performs the work. One implication of man's ascendancy to the ranks of the non-routine choice-maker is the larger part that values and social relations will play in his life. The choice maker who monitors and designs programmed decision processes and physical production and distribution processes should find the coming patterns of organizational decision to be more significant and more satisfying. Certainly, human values and interpersonal relations will be ever more critical factors in organizations. Their unconscious yet pervasive effect on the human who makes non-routine choices of ever wider scope and depth is certain to increase, for he will be working more and more in a "team"effort to relate the organization to its environment.

The comments offered on organizational decision have underscored this area as one of recent and rapid change. Former concepts of decision are not only being modified rapidly, new substitutes are just as rapidly being firmly footed in research. This is not to beg the question of the adequacy of contemporary concepts or practices. In fact there exists a growing need to provide longitudinal, interdisciplinary studies, especially clinically descriptive ones, which document the actual processes of decision. As the stock of comparable decison cases increases and the synthesizing of theoretical ideas becomes wedded to them, the new science of decision will be transformed into the practitioner's art.

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PROFIT CONSCIOUSNESS

Many of the traditional yardsticks of performance do not have return on assets, or even profit, as their primary objective. The sales manager, for instance, is often judged on the physical volume or the money value of his sales. High sales volume can be achieved by low prices—to the detriment perhaps of total profit. A factory manager seeking to reduce his labour costs may wish to go further than is economically justifiable in installing an automated process of manufacture. Similar examples can be found in all areas of a company's operations.

If profitability is to be maximized the traditional yardsticks have to be modified. The ideal is for all operations to be measured in terms of profit rather than volume, speed or cost. This can be assisted by making the major areas of the company into self-contained 'profit centres' selling to each other at prices based as far as possible on comparable outside prices. This type of organization automatically ensures that a manager treats profitability as the prime consideration.

Standards have to be set for judging the performance of individual profit centres. The yardstick used is the return on assets employed and comparison is made as far as possible with other firms in a similar industry. Great value can be obtained from a detailed analysis of information about competitors and the most efficient firms in other industries. In this way areas in which the company is less efficient than certain other concerns can be determined and action taken accordingly.

—The Manager

Canadian Taxation and the Businessman

K. W. LEMON, F.C.A.

The Canadian businessman has long realized that the capital gain is the most elusive animal in our taxation jungle. Despite this, the very attractive tax-free nature of the beast has made it the most sought after of our Canadian game animals.

The elusiveness of the capital gain is due largely to the fact that our Canadian tax law makes no attempt to define this desirable prize, and, consequently, it can be identified only by inference as a gain which is not swept into the broad statutory definition of income. The difficulty of identification is increased by the definition of income which includes the delightfully vague phase "profit from an adventure or concern in the nature of trade."

Against this background, taxpayer and tax collector have waged a continuing battle, with the fortunes of war swinging from one side to the other as our courts have developed a series of tests for the identification of border-line transactions. The intention of the taxpayer, although frequently most difficult to determine, has always been an important factor in the tests applied by the courts. At one time, it appeared that any windfall gain or any profit resulting from the realization of a special investment would be classified as a capital gain, while any profit resulting from the disposal of an asset acquired with a view to profit would be considered to fall within the definition of income. Over a period of time, however, as the courts continued to develop their series of tests, the concept of the changed intention was adopted. Thus the taxpayer who acquired land with the original intention of farming, but who later decided to sub-divide and sell building lots, found that his changed intention resulted in a profit from a business or an adventure in the nature of trade.

More recently our courts have moved towards adoption of the test of "secondary intention." This concept is best illustrated by a case decided against the taxpayer by the Exchequer Court and subsequently supported by the Supreme Court of Canada in 1960. In this case, land which had been acquired as a site for a shopping centre was sold at a profit. The taxpayer's plan for the shopping centre depended on obtaining a department store as the major tenant. When this proved impossible the plan fell through. The courts, while accepting that investment was the taxpayer's primary objective, held that it had an alternative or secondary intention—the profitable disposal of the property should its primary intention fail. On this basis the profit was held to be taxable.

This decision has given rise to a considerable amount of concern because it would appear that the underlying reasoning might be applied to the sale of almost any asset, on the grounds that it would not have been bought by a prudent investor without some consideration being given to future sale at a profit should conditions warrant. Fortunately, however, the decision does not appear to go this far. The judgment indicates that the court considered that the whole plan was entirely speculative and of a promotional character. There was no evidence that the promoter had any assurance that he could obtain a department store tenant nor that he intended to proceed with the shopping centre in the event that one was not available. In these circumstances, the court considered that the whole transaction was of a commercial nature which resulted in the profit being taxable.

As a result of this and other decisions, the Canadian businessman has concluded that our court decisions are moving in the direction of taxing many profits which would have been considered as capital gains in the past. The extent to which the secondary intention test is further developed by the courts will be followed with great interest. Particular interest can be expected in the possible application of secondary intention to justify deductions from taxable income in respect of losses incurred on the disposal of assets originally acquired as investments.

Canadian Law and the Businessman

PETER V. V. BETTS

CAN A TENDER BE WITHDRAWN?

Hamilton Board of Education vs. United States Fidelity and Guarantee 1960 O.W.N. 523 will no doubt cause municipalities and others to reconsider their practice when calling for tenders. This was an action on a bid bond. Frequently when calling for tenders the owner requires the contractor to deposit a certified cheque with his tender in the amount of say 10% of the contract. If the owner accepts the tender and the contractor then refuses to proceed with the work, the owner feels free to accept the next lowest tender and to forfeit the contractor's cheque to compensate the owner for the loss of his bargain. Sometimes, instead of a certified cheque, the owner will accept a bid bond. This is a promise on the part of an insurance or guarantee company to pay damages if the contractor reneges.

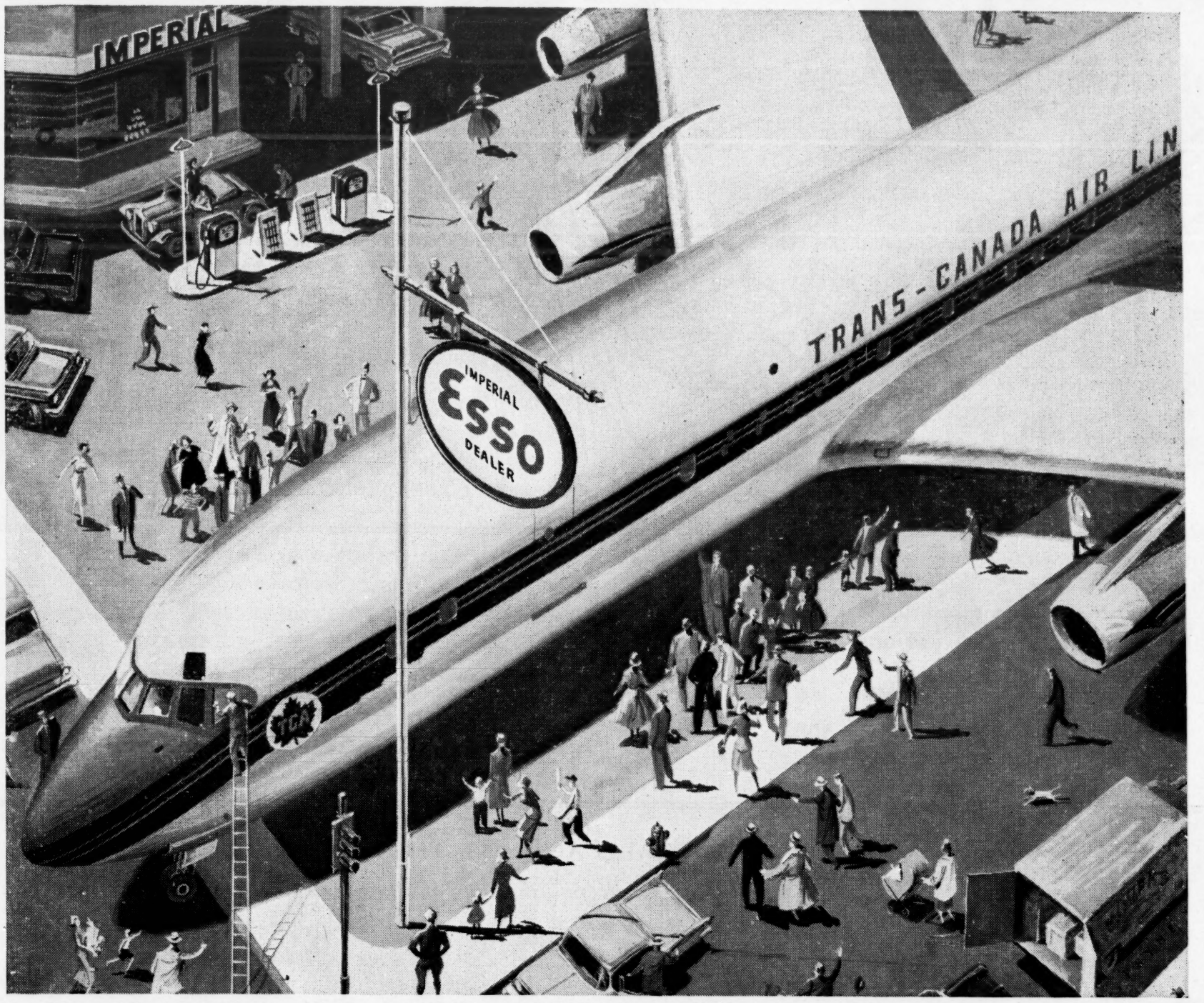
In Hamilton Board of Education vs. United States Fidelity and Guarantee, the contractor submitted a tender for the building of a school on the 26th June, 1950. On the 7th July, 1950, the owner informed the contractor that its was the lowest tender and inferred that such would in due course be accepted. On the 30th August the contractor withdrew its tender before the owner had time to pass the by-law necessary for formal acceptance. The owner sued the Guarantee Company on the bond and lost the case.

A tender is an offer, and, in the absence of special circumstances, like any other offer it can be withdrawn before acceptance. This was settled as far back as 1873 in GNR vs. Witham, but is a most unsatisfactory position for the owner and hence the use of certified cheques and bid bonds. It is interesting to speculate whether the result would have been different if the owner had taken a certified cheque rather than a bid bond.

The full report is not available at the time of writing, but it would seem, in the opinion of the Court, that the wording in the specifications left something to be desired. The court laid stress on the fact that the specifications in describing the type of bond required referred to a bond that would be forfeited "should the party, whose tender was accepted, fail to enter into a satisfactory contract." The Court was of the opinion that the owner had failed to accept the tender before it was withdrawn and dismissed the action.

On the other hand, the language of the bid bond itself was clear enough. The bond provided that in the event of the contractor failing to execute and enter into a form of contract within the time required . . . the bonding company was liable, and this without reference to whether or not it was a valid withdrawal of the original tender. In his reasons for Judgment, The Honourable Mr. Justice Stewart is reported to have said that the Plaintiff had urged him that the purpose of a bid bond was to protect the owner against the withdrawal of a tender. The learned Judge felt that that would be so only if the specifications provided that no tender could be withdrawn for a certain period and if the bond was so conditioned. This puts municipalities in an almost impossible position because tenders are generally opened in public and take some time to tabulate and evaluate. Thus, the contractor, will learn that his tender is the lowest sometime before the Municipal Council can meet to pass a by-law to accept a tender with the formality required by law. The contractor, in this way, will always be able to withdraw after comparing his results with those of his business competitors. This appears to defeat the whole purpose of the tender.

Our hope would be that this case might go to appeal. But if not, the usual form of specifications might conveniently be altered to provide that the certified cheque or bid bond is to be forfeit upon withdrawal of a tender at any time within a period of say 30 days from the last day upon which tenders are to be received, whether or not accepted sooner. Otherwise, municipalities have no defence against frivolous and vexatious tenders.



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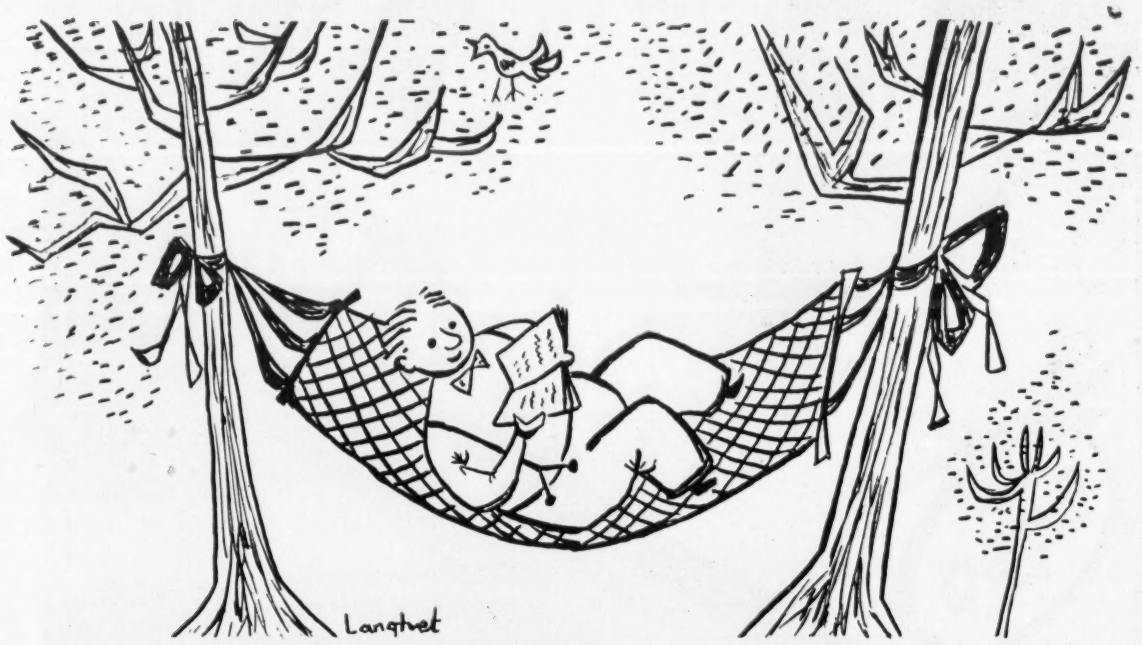

BOOKS FOR THE BUSINESSMAN

Reviewed in this Issue		*Reviewer*
THE WASTEMAKERS	Vance Packard	*D. S. R. Leighton*
THE SPENDERS	Steuart Britt	*D. S. R. Leighton*
THE POWERFUL CONSUMER	George Katona	*D. S. R. Leighton*
ORGANIZATIONAL SYSTEMS AND ENGINEERING GROUPS	Louis B. Barnes	*Alexander Mikalachki*

VANCE PACKARD AND ALL THAT

- a review of some recent books relating to consumer behaviour.

by D. S. R. Leighton

The Wastemakers, by Vance Packard, David McKay Co. Inc., New York, 1960. 340 pp. $4.50.

The Spenders, by Steuart Britt, McGraw-Hill Book Co. of Canada, Toronto, 1960, 293 pp. $5.75.

The Powerful Consumer, by George Katona, McGraw-Hill Book Co., New York, 1960, 276 pp. $6.50

After a hiatus of nearly three decades, the American publishing industry has rediscovered the consumer. Not since the late '20s and early '30s have we had such soul-searching and analysis of the American (and Canadian) public in their role as buyers of goods and services, and the influence on them of advertising and selling. Only now, instead of Upton Sinclair and Stuart Chase, we have a new cast of characters named Vance Packard and Steuart Britt. And instead of *Your Money's Worth,* we have *The Wastemakers* and *The Spenders, The Hidden Persuaders,* and *The Status Seekers.* But some of the plots have familiar ring.

The leading role in this rediscovery has been played by a formerly obscure ex-newspaperman named Vance Packard. Packard unquestionably touched some kind of a sensitive nerve in the reading public with his first and greatest success, *The Hidden Persuaders,*[1] which rode the best-seller lists for over a year and introduced a new term into our North American lingo. He quickly followed this up with *The Status Seekers*[2] and now has produced yet a third variation on the same general theme, *The Wastemakers.*[3] Packard must certainly be the only author ever to become rich by condemning planned obsolescence while at the same time applying the principle to the hilt in his frantic production of books.

Packard has been successful, fabulously so. He has become a sort of middle-aged American version of the "angry young man." He has been hailed by many as an extremely acute and perceptive commentator on the moral and spiritual disintegration of American society and American values. No less an observer than Orville Prescott, chief reviewer of the *New York Times,* has reviewed Packard's works in favourable terms, has expressed concern at the "facts" that Packard presents, and commends his writings to "men in the White House, the Capitol and the Pentagon."

[1]New York, The David McKay Company, Inc., 1957.
[2]New York, The David McKay Company, Inc., 1959.
[3]New York, The David McKay Company, Inc., 1960.

Packard's theme has been simple. The American consumer is being manipulated through motivation research and advertising to buy products he does not really want. The consumer has been sold a false set of values, which include excessive preoccupation with material objects, symbols of status, "newness," and conspicuous consumption. He has, in short, been led down the road to moral decay by the combined efforts of the motivation researchers, advertising agencies, and big business.

These are not new themes; they have been echoed for generations by many intellectuals and well-meaning social reformers. Packard's success in working over this theme can, however, be attributed to a unique combination of factors, among which are the following:

1. The growing challenge to the myth of western superiority has alarmed most Americans, and in the course of their increasingly-frequent critical self-examinations they have become honestly and sincerely disturbed at the excessive materialism they see in our western culture.

2. Advertising, ubiquitous and often irritating, is an obvious scapegoat. It has been much easier to blame hucksters in grey flannel suits for manipulating us than to put the blame squarely where it belongs—on ourselves and the society we have created.

3. Business and the advertising agencies themselves have invited criticism for some of their obvious excesses, such as rigged quiz shows, the undue exploitation of sex, the bloated and wasteful budgets of the flush '50s, and the quackery some of the charlatans that seem to hover on the fringe of all such activities (including book publishing).

Hence Packard, like the late Senator McCarthy, has provided Americans with a virtually defenseless and extremely convenient target. And, like McCarthy, he has all the skills that are necessary in order to prosecute the case most effectively—a certain glibness and ability to communicate with his audience; a smattering of the language and terminology of the trade; a talent for oversimplification and a capacity for half-truth; a disregard for the individuals who are sacrificed to his ends.

With Packard, everything is frantic, sinister, Machiavellian. Every anecdote and case example, usually lifted from the lunatic fringe, is presented so as to imply evil designs by business on the consumer. Every tired old criticism of advertising and social values is presented as if it were a great new discovery unearthed for the public's benefit by the brilliance and perception of one Vance Packard.

Not everyone has been taken in, of course. The advertising business has tried somewhat ineffectually to defend itself, but in so doing it has fallen back on *its* old set of clichés about advertising, which are not much better than Mr. Packard's. Some less tainted sources, notably the *New Yorker,* have easily seen through Packard and cut his pseudo-logic to ribbons in brilliant fashion. And even more recently, we have had a book appear that has been widely billed as "the answer to Vance Packard."

For rebutting Mr. Packard, the advertising industry could scarcely have asked for a better-qualified spokesman: Steuart Henderson Britt, a noted academician with long experience in the field of advertising agency research work prior to joining the faculty of the Northwestern Unversity School of Business in 1957. A Ph.D. in psychology, Britt is co-author of one of the earlier and best-known works in the research field, *Advertising Psychology and Research,* and is currently editor of the *Journal of Marketing.* Impressive qualifications indeed!

* * *

Unfortunately, his book, *The Spenders*[4] falls short of at least my expectations. It is apparently addressed to the American consumer, or at least those of them who consume books. It obviously takes great effort for Britt to shake loose from academic prose and communicate with this audience. In attempting to do so, he "talks down" to his readers, a mistake Packard never makes.

I would give considerable odds that Britt's book does not come close to approximating the success that Packard has enjoyed. *The Spenders* is basically sensible and accurate, but it is *defensive.* It is trying to meet a rather passionate, emotional, and slickly aggressive approach by talking reasonably and sensibly to the consumer. The tone is paternal and a little condescending. In painting his picture of advertising and marketing, Britt has applied the whitewash a little too liberally. Methinks he doth protest too much!

All in all, *The Spenders* falls short of its purpose principally because it does not face Packard squarely on the key issue he raises—that of the values of our whole system of society.

Packard and his supporters appear to operate on the basis of a very simple syllogism, which, stripped to its essentials, goes something like this:

1. All manipulation of people is immoral.
2. Advertising and motivation research are manipulation.

[4]New York: McGraw-Hill Book Co., Inc., 1960.

Continued on next page

3. Therefore advertising and motivation research are immoral.

The basic weakness of the advertising industry's position, and conversely a strength of Packard's, is that the industry as a whole has swallowed the myth of its own power. That is to say, Packard charges the advertising industry with manipulation through the power of advertising, a power derived in part from insights into the consumer mind provided by motivation research. This is a charge that is hard to refute except by denying the power of advertising and its manipulative intent. The advertising industry is scarcely prepared to make any denial of the power of advertising, since to do so would cut the ground out from under the position they have been taking with clients for years. Thus the advertising men have been reduced to weak and unsubstantial protests largely denying their intent to manipulate and proclaiming their own purity and sanctity of purpose, a point of view most consumers (and I) find very hard to accept.

IS MANIPULATION IMMORAL?

By "manipulation" in this context we really mean persuasion. Every business tries to persuade people to do something. The backbone of our economic system is freedom of entry into business and the right to solicit business from potential customers. Selling and persuading pervade every aspect of our system; advertising is, of course, by no means alone in having manipulative intent. Every business tries to persuade us to do what it would like us to do. So do our politicians when they seek our votes; so do the clergymen seeking to save our souls; so do our teachers trying to train our young. We can scarcely consider the act of persuasion (i.e., attempted manipulation of others) to be unethical or immoral *per se*.

If persuasion itself is not inherently immoral, then we must fall back on the proposition that some persuasion is immoral and other persuasion is not. How and where do we draw the line? On the basis of *intent?* Is persuasion that attempts to make men Christians good, and persuasion that attempts to make them buy Quaker Oats bad? Or does it depend on the motives to which the appeal is made? By this token, appeals to "good" motives are good, and appeals to base motives are bad. If this is so, we will need some agreement on lists of good and bad motives. Who is to draw it up? Or is persuasion that is truthful and factual good, while persuasion that appeals to emotions and "irrationalities" bad? What, after all, is rational? Is the minister who fosters a spiritual atmosphere in church doing any more than the advertiser who attempts to foster a pleasing image for his firm or product?

I do not wish to imply that some lines should not be drawn, that some answers should not be attempted, no matter how difficult. But these complex issues are rooted deeply in our society as a whole and related to its value system. They are not confined to advertising and selling, and one can scarcely single out the advertising man and pin on him the blame for ills that are essentially our whole society's ills. It would be more useful for all of us to accept responsibility for this state of affairs rather than try to pin it on some convenient scapegoat like advertising, which in many respects simply reflects and reinforces values that are already present in our society.

IS ADVERTISING MANIPULATIVE?

Advertising clearly tries to manipulate people, as do all other forms of selling. But even if manipulation *per se* were immoral (which, I suggest, it is not), there is a substantial difference between manipulation and *attempted* manipulation. Advertising may try to manipulate people, but any objective observer must admit that it is extraordinarily ineffective in actually doing so.

The myth of advertising's power to manipulate dies hard. And the advertising industry itself does much to foster that myth, often at its own cost. But if advertising and motivation research were so effective in manipulating consumers, how does one explain such colossal flops as the Edsel? How does one explain the advent of the small car? How does one explain the failure of so many new products launched with all the skill and wile of the advertiser and market researcher? One answer was provided nearly 20 years ago by Neil H. Borden, in his classic, *The Economic Effects of Advertising*.[5] Based on long and painstaking research, Borden concluded that advertising could be effective only where certain favourable conditions were present, and these conditions were such that the opportunity for effective use of advertising were relatively few when placed in the perspective of the total business picture.

Raymond Bauer, a social psychologist now on the staff of the Harvard Business School, has also concluded that advertising is strictly limited in its power to persuade. He has written:

> "Without doubt we have, largely on the basis of improved social science knowledge in the fields of psychology, sociology, and anthropology, developed increasingly refined and effective means of persuasion. It does not follow, however, that even in the field of

[5]Homewood, Illinois: Richard D. Irwin, Inc., 1942.

advertising we are able to effect more persuasion. How can this be? Simply because the increased knowledge benefits not only the persuader but also the target of persuasion. As the persuaders become more sophisticated, so do the people to be persuaded."[6]

Some have defended Packard on the ground that he has drawn attention to things that needed re-evaluation. My answer is: so did Joe McCarthy. Does anyone who distorts and smears do us a service just because he points at something that needs examination? Better not to have it, I say, than to have an evaluation on such terms.

The fact of the matter is that advertising *does* attempt to be manipulative, it is grossly wasteful, and it is often guilty of vulgarity and deception. Yet this does not mean it is immoral and detrimental to the social interest. What it does mean is that poor advertising is immoral because it is wasteful. It means we should be striving to improve our knowledge of consumer behaviour itself, that we should seek to learn more about advertising, that we should be striving to make it more efficient, and that we should work to maintain it on a plane of truth and honesty. This is the fault of advertising today, and this is where we should be directing our effort.

* * *

In contrast to the battle of value judgments of Messrs. Britt and Packard is the recent work. *The Powerful Consumer*[7] by George Katona. Katona is professor of economics and psychology at the University of Michigan and is Director of the Economic

[6] "Limits of Persuasion", *Harvard Business Review*, Vol. XXXVI, No. 5, Sept.-Oct. 1958, p. 108.

[7] McGraw-Hill Book Company, Inc., 1960.

Continued on next page

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Behaviour Program at that institution's Survey Research Centre.

The Survey Research Center has for a number of years conducted carefully-designed and executed surveys of consumer buying intentions and habits. Prof. Katona has directed this work, and some of his earlier findings have been reported in earlier publications, notably *Psychological Analysis of Economic Behaviour.*[8] *The Powerful Consumer,* however, has a somewhat different orientation, as Katona puts it:

"That some powerful leaders may influence the economy has always been recognized. Since time immemorial, kings, presidents, and parliaments have interfered with supply and demand by such acts as levying taxes and duties or instituting public works. Business leaders have also influenced the course of the economy, for instance, by introducing technological innovations or new institutional practices. Yet the psychological studies that form the basis of this book were directed neither to political leaders nor to entrepreneurs. Our interest lay primarily in studying the discretion in decision making and in action of consumers, the unorganized masses, who in the past have been considered passive factors rather than powerful forces influencing the stability or instability of the economy.

"The two basic propositions, Demand depends on income and confidence, and Changes in confidence are measurable, are applied to consumers. We shall show that millions of households may step up or reduce their purchases, not only because their ability to buy has increased or decreased, but also because their attitudes have changed. Information on changes in consumer sentiment contributes to an understanding of economic processes and to our ability to predict the future course of the economy.

[8]New York: McGraw-Hill Book Co., Inc., 1951.

"What conclusions emerge from a study of the influence of consumer motives, habits, attitudes, and expectations on consumer spending? Is today's American economy made more stable or less stable by the millions of decision makers who may change its course? The conclusion that will be drawn from our studies is that consumer thinking is inherently conservative and sane, and not inclined toward sudden and excessive fluctuations. While far from fully rational, consumers are not puppets in the hands of unscrupulous manipluators. Rumours and unfounded statements do not sway consumers easily because they have a fairly sound, if unsophisticated, picture of the workings of the economy."

This is a carefully-documented, scholarly work. Unlike Packard's books, it is neither entertaining nor light reading. It presents evidence and basic data in rather large doses, and it is clearly written for the academicin or marketing research practitioner. Katona's key conclusions are few and carefully stated. Among them, he states:

1. Changes in consumer attitudes are advance indications of changes in consumer spending on durable goods and make a net contribution to the prediction of such spending after the influence of income has been taken into account.

2. Studies of consumer attitudes serve primarily to enable us to understand and predict the direction, rather than the magnitude, of changes in demand.

3. Change in expectations is due either to (a) the acquisition of widely transmitted public information or (b) to personal experiences. Most commonly, public information is either noninfluential or operates in the same direction with very many people. At any given time there will be individuals

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who are influenced by personal experiences in one direction and other persons who are influenced in the other direction. If public information is not influential, aggregate changes in consumer expectations will be small; if they are important (and uniformly acquired), then changes in expectations will be substantial. The influence depends largely on how the public information is acquired.

Katona spends a good deal of the later parts of the book in an analysis of how attitudes are formed, particularly at different stages of the business cycle. His work has important implications for everyone concerned with business forecasting and consumer behaviour.

Katona concludes *The Powerful Consumer* with a discussion of some of the moral and ethical implications of consumer manipulation:

"Instead of arguing that there is too much manipulation of consumers, a good case might be made for the thesis that they are not manipulated enough in the sense of not being helped to acquire sufficient information and knowledge. No doubt progress has been made in the fight against the instability of our economy, but undoubtedly again much further progress is needed if we are to accelerate improvement in the standard of living of the masses and avoid occasional substantial losses in production as well as human suffering through widespread unemployment. We have pointed to certain tendencies in consumer behaviour that counteract instability in the economy. To attempt to influence consumers so that they should better understand their function and make better use of their power is a task for leaders of public opinion. Little experience exists as yet in this respect, but we need not be afraid of more and better knowledge. Much more information and many more statistical data about the economy are available today than

twenty or even ten years ago. Yet additional information is still needed and must be publicized in a form understood, not only by experts and business leaders, but by millions of consumers as well."

ORGANIZATIONAL SYSTEMS AND ENGINEERING GROUPS

by Louis B. Barnes, Harvard Business School, Division of Research, Cambridge, 1960, 172 pp. $3.50.

Professor Barnes, one of the "younger generation of teacher-researchers" at the Harvard Business School, focuses in this research on the effects of organizational systems on two technical groups in industry. The organizational systems dealt with in this study dichotomize into "relatively closed" and "open" systems. The category into which an organization is placed is determined by (1) the degree of non-required interactions; (2) the line of influence (upward or downward); (3) the degree of job autonomy. The author secured two organizations, Company A and Company B, which by the above criteria depicted "relatively closed" and "open" systems respectively.

Company A (closed system, the first to be investigated, served as a basis for testing hypotheses as to the effects of a closed system on emergent behaviour. From this initial investigation, hypotheses were generated as to what might be expected of an organization that maintained a relatively open system. These hypotheses and the predictions determined from them were tested in Company B. In general, this comparative study relates the effects of closed and open systems on the status patterns, behaviour, social structure, performance, and satisfaction of two technical groups in industry. More specifically, Professor Barnes addres-

continued on next page

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ses the following questions in his research:

(1) How does the pattern of authority in the research affect the behaviour of engineers in their work groups?

(2) What are the effects of different degrees of individual and group autonomy on motivation, production, and satisfaction of engineers?

(4) Does a relatively free (or restricted) opportunity for interaction among engineers affect their group development?

(4) In what ways do the conflicting values of science and business affect group development, productivity, and satisfaction within different organizational environments?

The conceptual scheme used by the author for collecting and diagnosing the data is, with slight modification, that of George Homans' "external-internal" system discrimination. This study exemplifies how the scheme is made operational for the collecting of data and also how it can be used for the diagnosing of this data and the planning of action. Consequently, the study has implication for both the administrator and the researcher. The administrator is served with what the author sees as the consequences of organizational systems (closed and open) on technical-industrial groups. He is also exposed to a scheme or model that can serve as diagnosis and appraisal of action purposes. The scheme possibly could suggest questions to the administrator that otherwise might not have occurred to him. From the social scientist's viewpoint, this study contributes and relates to the empirical findings of other researches regarding the effect of systems of authority and autonomy on group behaviour. The study also contributes to the growing body of knowledge in the methods of field research.

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Books for Businessmen — cont.

The greater part of this book is written in the language of the social scientist. It also suggests vistas for further research. For these and the above mentioned reasons, I would very much recommend this book to those interested in the social sciences. On the other hand, the administrator, in an effort to obtain anything greater than superficial understanding of the implications of this study, will have to plod through considerable unfamiliar verbiage. However, if he is intrigued by the questions Professor Barnes addresses in this study, if they have a ring of familiarity to him, then I would suggest the reading of this book may prove fruitful.

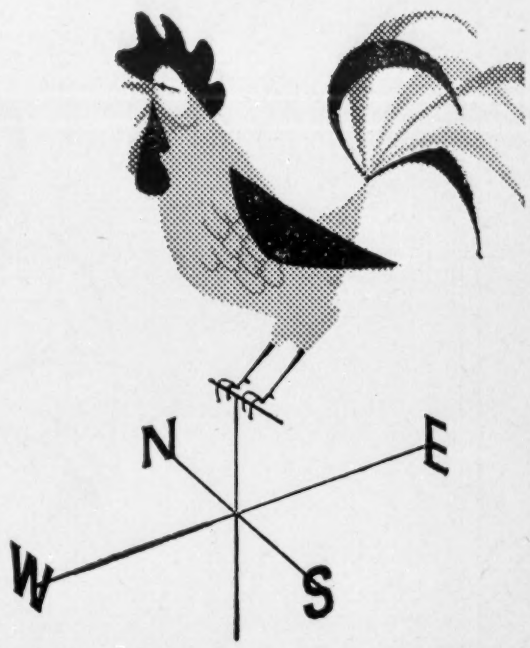
A. Mikalachki
Instructor, U.W.O.

Ottawa Newsletter continued

leader "Mike" Pearson, bemoaning "the loss of our Canadian personality under American pressures and influences."

Surprisingly, nobody has referred to the insouciant elephant that did not notice the beetle he trampled: I refer to the barrage of abuse being heaped upon Canada by American newspapers, on the grounds that we are opening a backdoor for get-rich-quick opportunists to trade with "communist-infested" Cuba. The overlooked fact is that Canada co-operated with U.S.A. by slamming an even tighter embargo than theirs on exports to Cuba, so that today it is easier for a Canadian export to go through the Iron Curtain than to enter the Kingdom of Castro.

Our Conservative Prime Minister John Diefenbaker adroitly sensed the dangerously growing antipathy, and prodded both Americans and Canadians with his words spoken to President Eisenhower during his last days in office: "Friendship is not like the passing seasons. *It cannot be taken for granted.* It requires constant vigilance."



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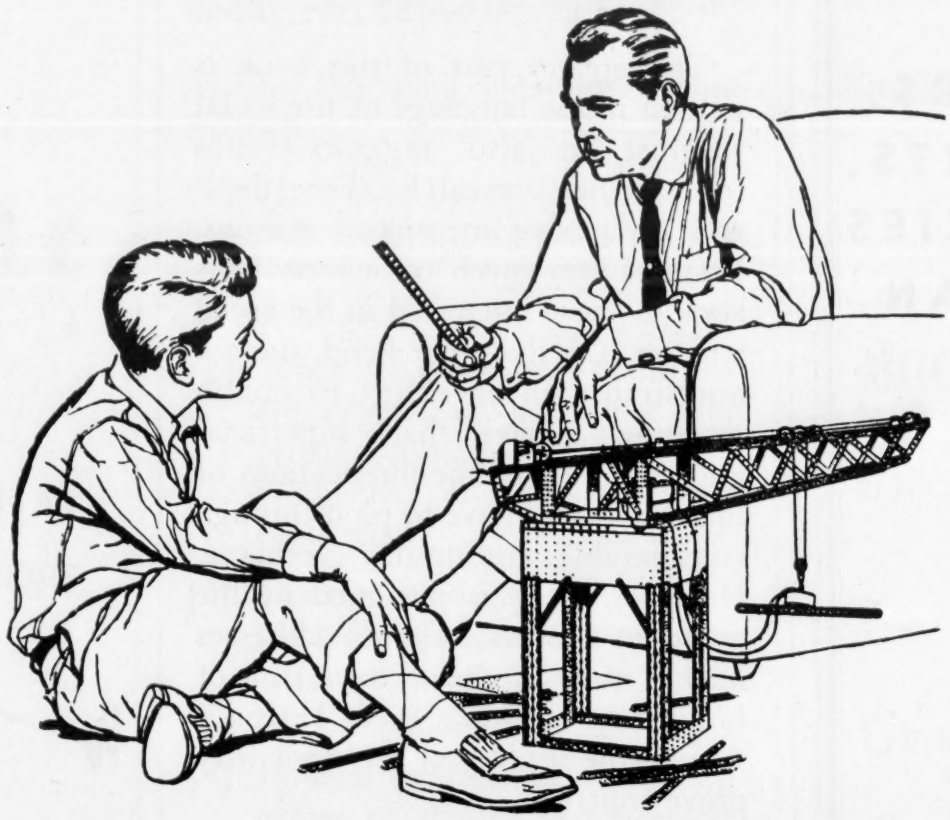

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